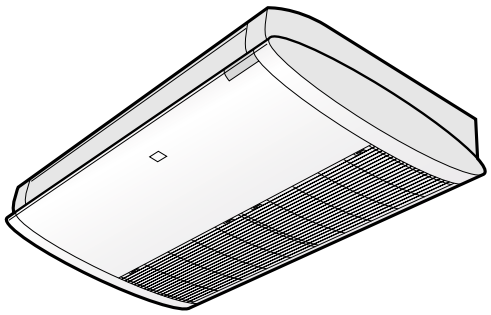
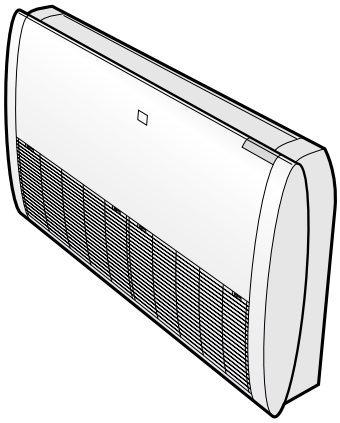
SHARP SERVICE MANUAL



CEILING TYPE



FLOOR TYPE

SPLIT TYPE
ROOM AIR CONDITIONERS

INDOOR UNIT

MODELS **GS-XP07ER**
GS-XP09ER
GS-XP12ER

OUTDOOR UNIT

GU-XR07ER
GU-XR09ER
GU-XR12ER

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

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SHARP CORPORATION

SPECIFICATIONS

ITEMS \ MODEL			INDOOR UNIT GS-XP07ER	OUTDOOR UNIT GU-XR07ER	INDOOR UNIT GS-XP09ER	OUTDOOR UNIT GU-XR09ER	INDOOR UNIT GS-XP12ER	OUTDOOR UNIT GU-XR12ER
Cooling capacity(Min. ~ Max.)		kW	2.1 (0.9 – 3.0)		2.5 (0.9 – 3.4)		3.4 (1.0 – 4.0)	
Heating capacity(Min. ~ Max.)		kW	3.0 (0.9 – 3.8)		3.5 (0.9 – 4.4)		4.4 (0.9 – 5.7)	
Moisture removal(at cooling)		Liters/h	0.2		0.2		0.7	

Electrical data

Phase			Single					
Rated frequency		Hz	50					
Rated voltage		V	220 - 240					
Rated current ★	Cool	A	3.0 (1.4 – 5.0)		3.6 (1.4 – 5.9)		4.9 (1.4 – 6.9)	
(Min - Max.)	Heat	A	3.8 (1.3 – 5.3)		4.5 (1.3 – 6.2)		5.5 (1.3 – 8.1)	
Rated input ★	Cool	W	650 (300 – 1090)		780 (300 – 1280)		1060 (300 – 1500)	
(Min - Max.)	Heat	W	830 (290 – 1140)		970 (290 – 1330)		1210 (290 – 1750)	
Power factor ★	Cool	%	98 – 90		98 – 90		98 – 90	
	Heat	%	99 – 91		98 – 90		100 – 92	
Compressor	Type		Hermetically sealed rotary type					
	Model		DA89X1F-20F					
	Oil charge		Ester oil VG68 370ml					
Refrigerant system	Evaporator		Louver Fin and Grooved tube type					
	Condenser		Corrugate Fin and Grooved tube type					
	Control		Capillary tube					
	Refrigerant (R410A)		770g		770g		1030g	
	De-Ice system		Micro computer controled reversed systems					
Noise level (at cooling)	High	dB(A)	37	45	39	45	41	48
	Low	dB(A)	34	–	34	–	35	–
	Soft	dB(A)	28	–	28	–	29	–

Fan system

Drive			Direct drive					
Air flow quantity (at cooling)	High	m^3/min.	10.3	28	11.1	28	12.0	30
	Low	m^3/min.	9.0	–	9.0	–	9.5	–
	Soft	m^3/min.	6.6	–	6.6	–	7.0	–
Fan			Centrifugal fan	Propeller fan	Centrifugal fan	Propeller fan	Centrifugal fan	Propeller fan

Connections

Refrigerant coupling	Flare type	
Refrigerant tube size Gas, Liquid	3/8", 1/4"	1/2", 1/4"
Drain piping mm	O.D ø 20	

Others

Safety device			Compressor: Thermal protector					
			Fan motors: Thermal fuse					
			Fuse, Micro computer control					
Air filters			Polypropylene net (Washable)					
Net dimensions	Width	mm	1025	780	1025	780	1025	780
	Height	mm	212	540	212	540	212	540
	Depth	mm	680	269	680	269	680	269
Net weight		kg	31	33	31	33	31	37

Note: The condition of star " ★ " marked item are 'ISO5151' : 1994(E), condition T1.

EXTERNAL DIMENSIONS

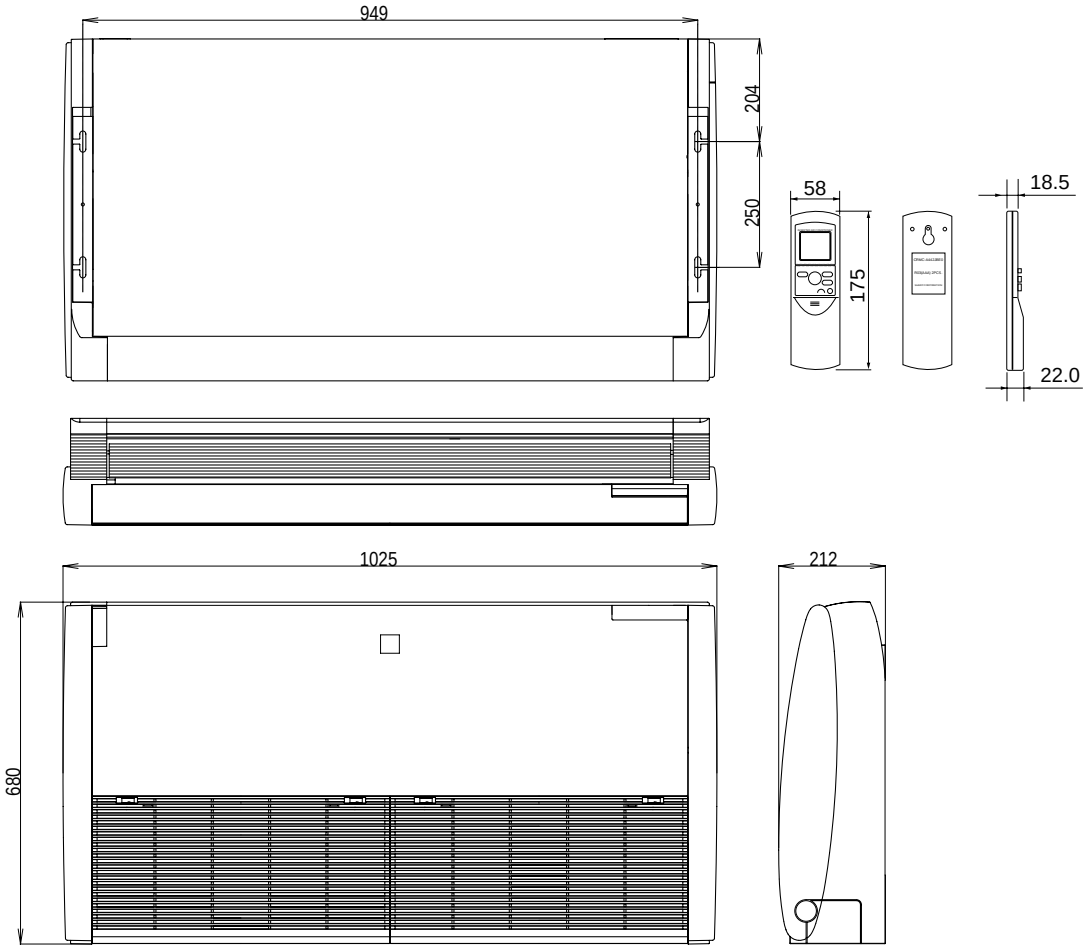


Figure E-1. INDOOR UNIT

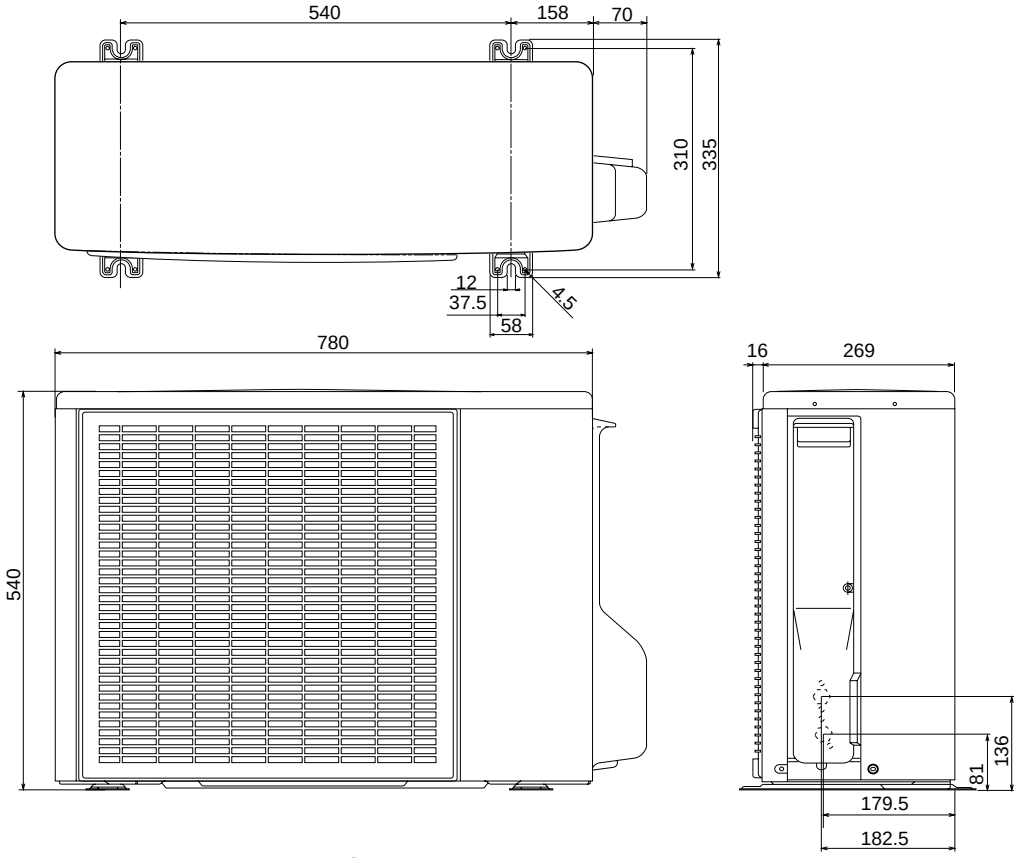
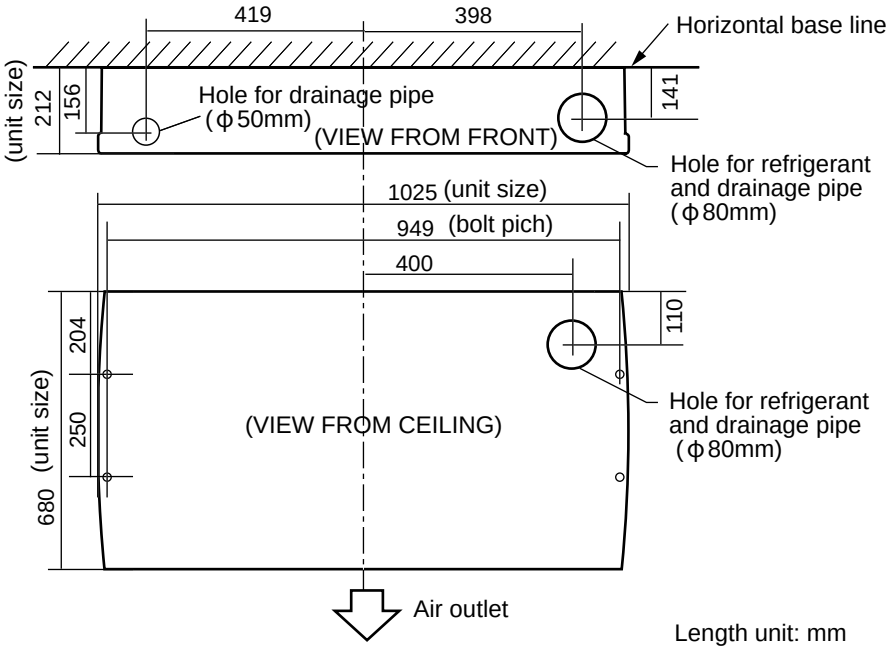


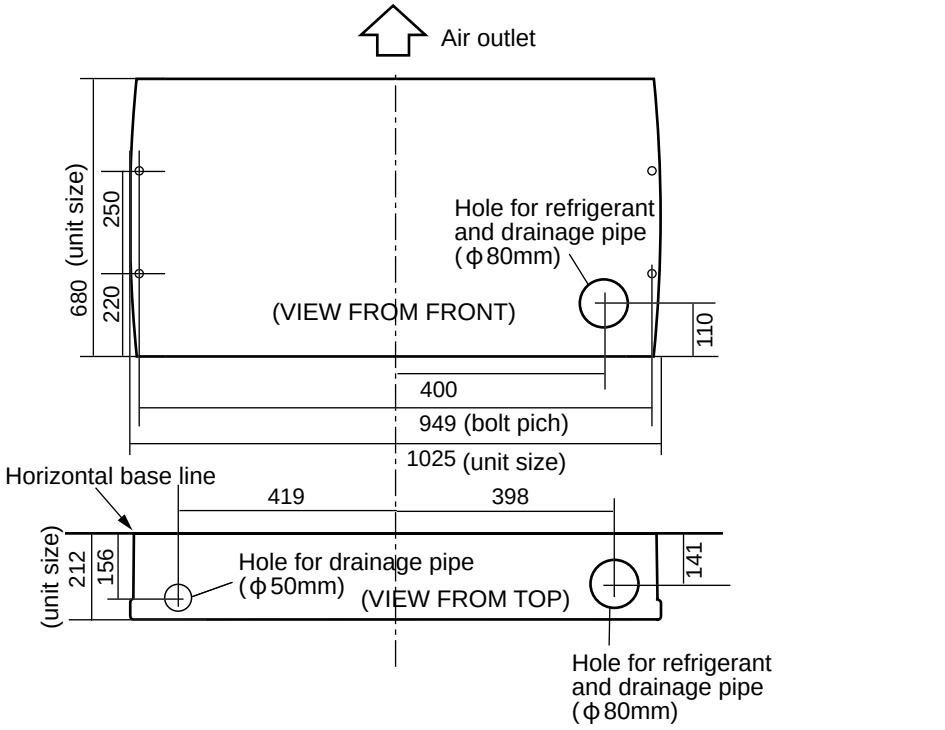
Figure E-2. OUTDOOR UNIT

Ceiling type



Length unit: mm

Floor type

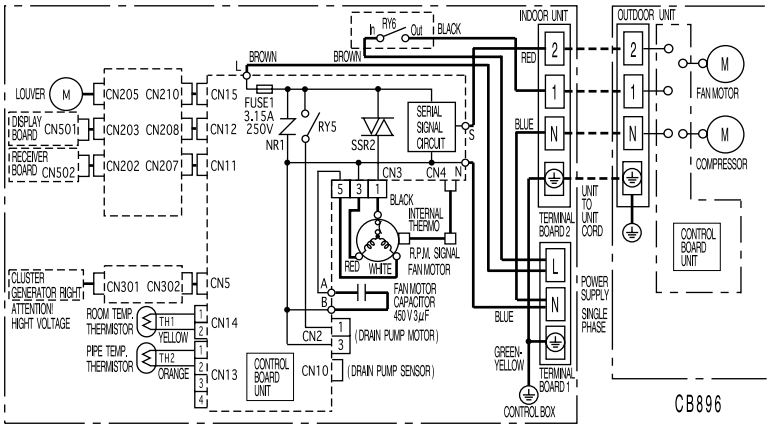


Length unit: mm

Figure E-3. INSTALLATION DIMENSIONS

WIRING DIAGRAMS

WIRING DIAGRAM



LED INDICATION FOR SELF-DIAGNOSIS

< LED orange blinking > LED orange blinks 5 times in 10 seconds.	Blink step →					Abnormal contents
	X	X	X	X	X	
< LED red blinking > Abnormal codition is indicated by the blinking pattern of LED red.	_	_	_	_	X	Short circuit of the outdoor thermistor
	_	_	_	X	_	Overheat of the compressor
	_	_	X	_	X	Open circuit of the outdoor thermistor
	_	_	X	X	_	Power module (IPM) abnormality
	_	_	X	X	X	Abnormal AC current
	_	X	X	_	X	Abnormal compressor rotation
	_	X	X	X	_	Power factor module(AF1) error
	X	_	_	_	X	Open circuit of serial signal line
	X	_	_	X	_	Short circuit of serial signal line
X : LED blink _ : LED no blink	X	_	_	X	X	Abnormal fan motor of indoor unit
	X	X	X	X	_	Abnormal drain pump

〈Indication of the abnormal condition〉

LED indicator will blink, if the set is in abnormal condition.
And then turn off and button AUX. continuously about 5 seconds, until 3 beeps sound.

SELECT SWITCH & CONNECTOR LAYOUT

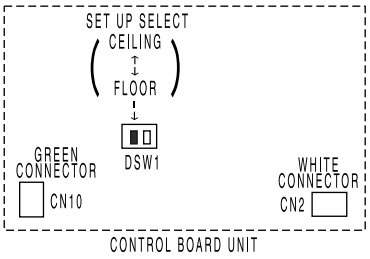
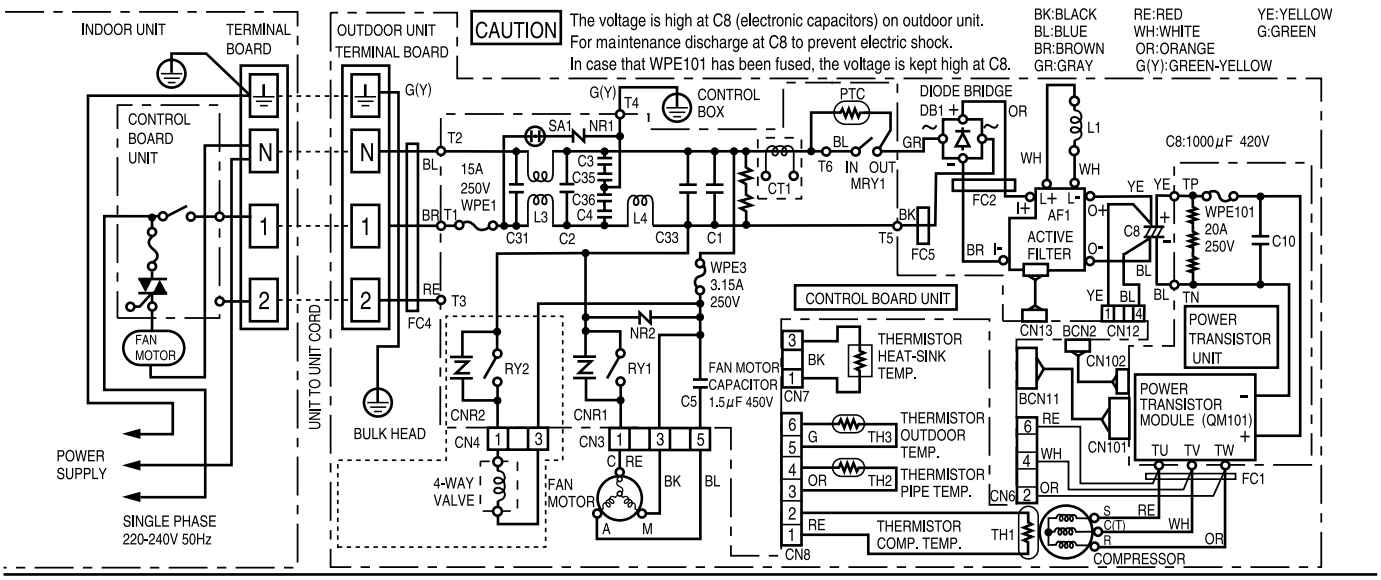


Figure W-1. Wiring Diagram for GS-XP07ER / GS-XP09ER / GS-XP12ER



LED INDICATION OF SELF-DIAGNOSIS ON OUTDOOR UNIT

	LED BLINKING
●	LED turns on
○	Slow flashing (1 time for 2 seconds)
◑	Quick flashing (3 times for 2 seconds)

NO.	LED indication pattern	Mulfunction part or abnormal condition
	○	Normal
1	●	Abnormal signal line
2	◑ x 1time	Short circuit of the thermistor
3	◑ x 2times	Overheat error (Compressor, Power module)
4	◑ x 5times	Open circuit of the thermistor
5	◑ x 6times	Power module (QM101) abnormality

NO.	LED indication pattern	Mulfunction part or abnormal condition
6	◑ x 7times	Abnormal AC current
7	◑ x 13times	Rotation error of the compressor
8	◑ x 14times	Power factor module(AF1) error

Example: NO.3 Overheat error (Compressor, Power module)

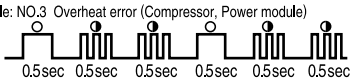


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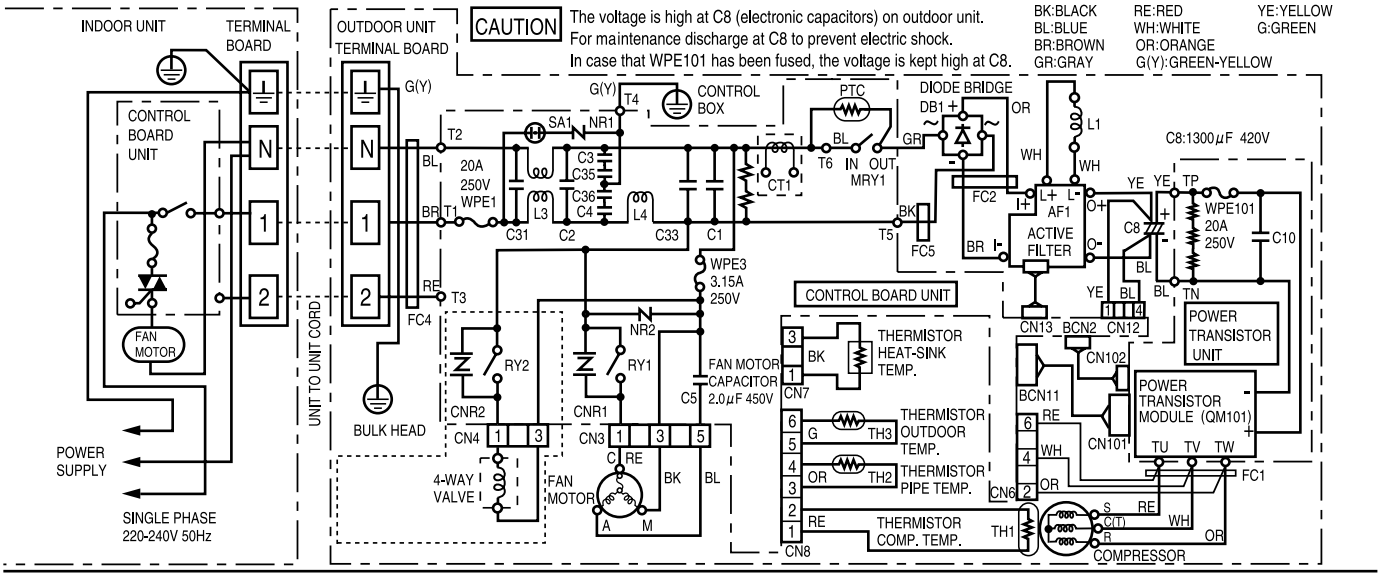
Figure W-2. Wiring Diagram for GU-XR07ER / GU-XR09ER



LED INDICATION OF SELF-DIAGNOSIS ON OUTDOOR UNIT

	LED BLINKING
●	LED turns on
○	Slow flashing (1 time for 2 seconds)
◑	Quick flashing (3 times for 2 seconds)

NO.	LED indication pattern	Mulfunction part or abnormal condition
	○	Normal
1	●	Abnormal signal line
2	◑ x 1time	Short circuit of the thermistor
3	◑ x 2times	Overheat error (Compressor, Power module)
4	◑ x 5times	Open circuit of the thermistor
5	◑ x 6times	Power module (QM101) abnormality

NO.	LED indication pattern	Mulfunction part or abnormal condition
6	◑ x 7times	Abnormal AC current
7	◑ x 13times	Rotation error of the compressor
8	◑ x 14times	Power factor module(AF1) error

Example: NO.3 Overheat error (Compressor, Power module)

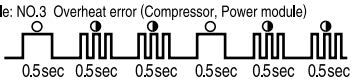


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Figure W-3. Wiring Diagram for GU-XR12ER

ELECTRICAL PARTS

For Model GS-XP07ER / GS-XP09ER / GS-XP12ER

DESCRIPTION	MODEL	REMARKS
Indoor fan motor	MLB052	220 - 240V, 50Hz
Indoor fan motor capacitor	–	450V, 3μF
Transformer	–	Primary; AC 220 - 240V, 50Hz Secondary; AC19V, 50Hz
FUSE1	–	QFS-GA054JBZZ (250V, 3.15A)
FUSE2	–	QFS-GA064JBZZ (250V, 1A)

For Model GU-XR07ER / GU-XR09ER

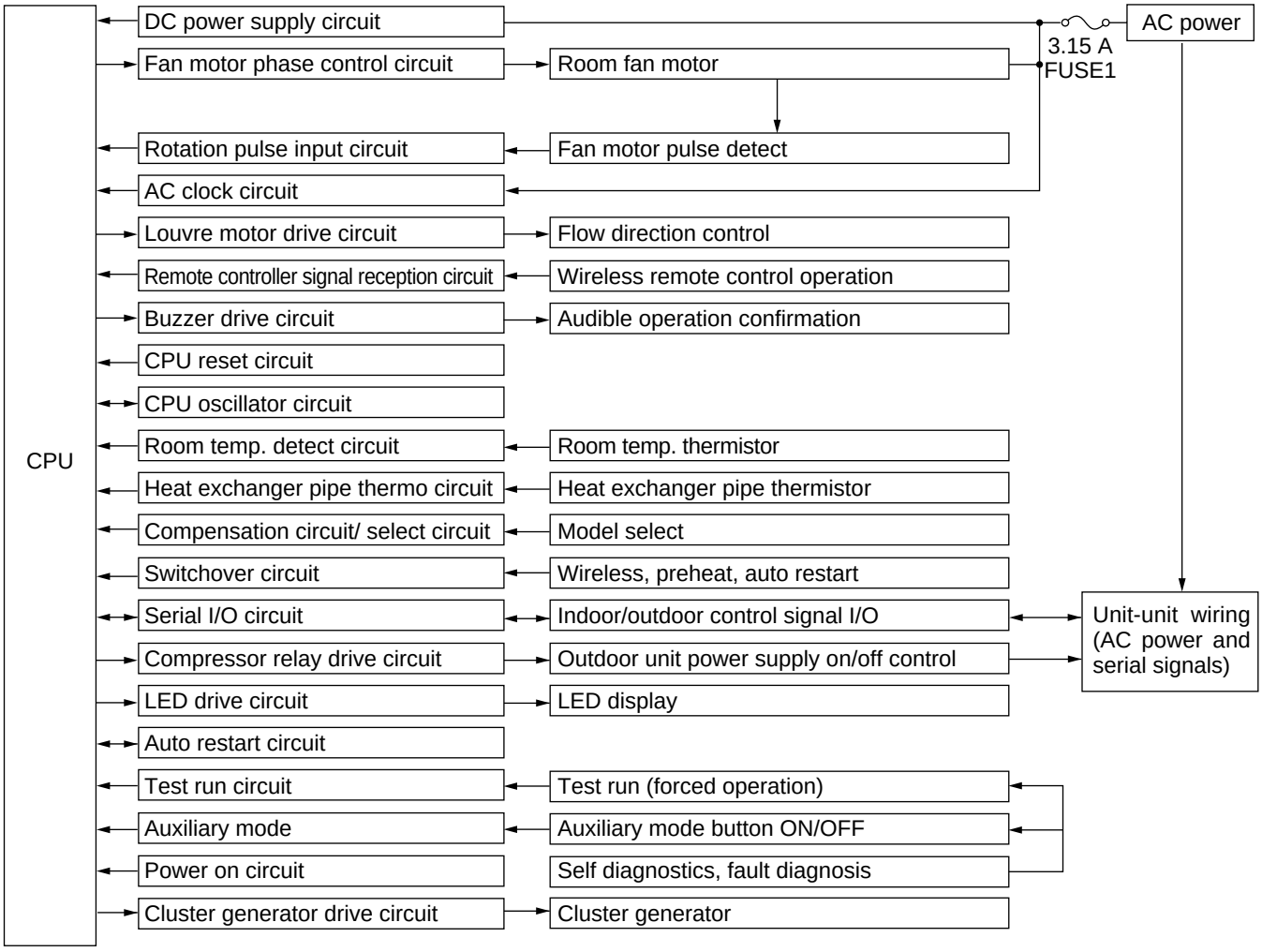
Compressor	DA89X1F-20F	D.C. brush-less motor
Outdoor fan motor	ML-A902	220 - 240V, 50Hz 220V, 60Hz
Outdoor fan motor capacitor	–	450V, 1.5μF
WPE1	–	QFS-GA033JBZZ(250V, 15A)
WPE101	–	QFS-GA019JBE0(250V, 20A)
WPE3	–	QFS-GA062JBZZ(250V, 3.15A)
WPE5	–	QFS-GA064JBZZ(250V, 1A)

For Model GU-XR12ER

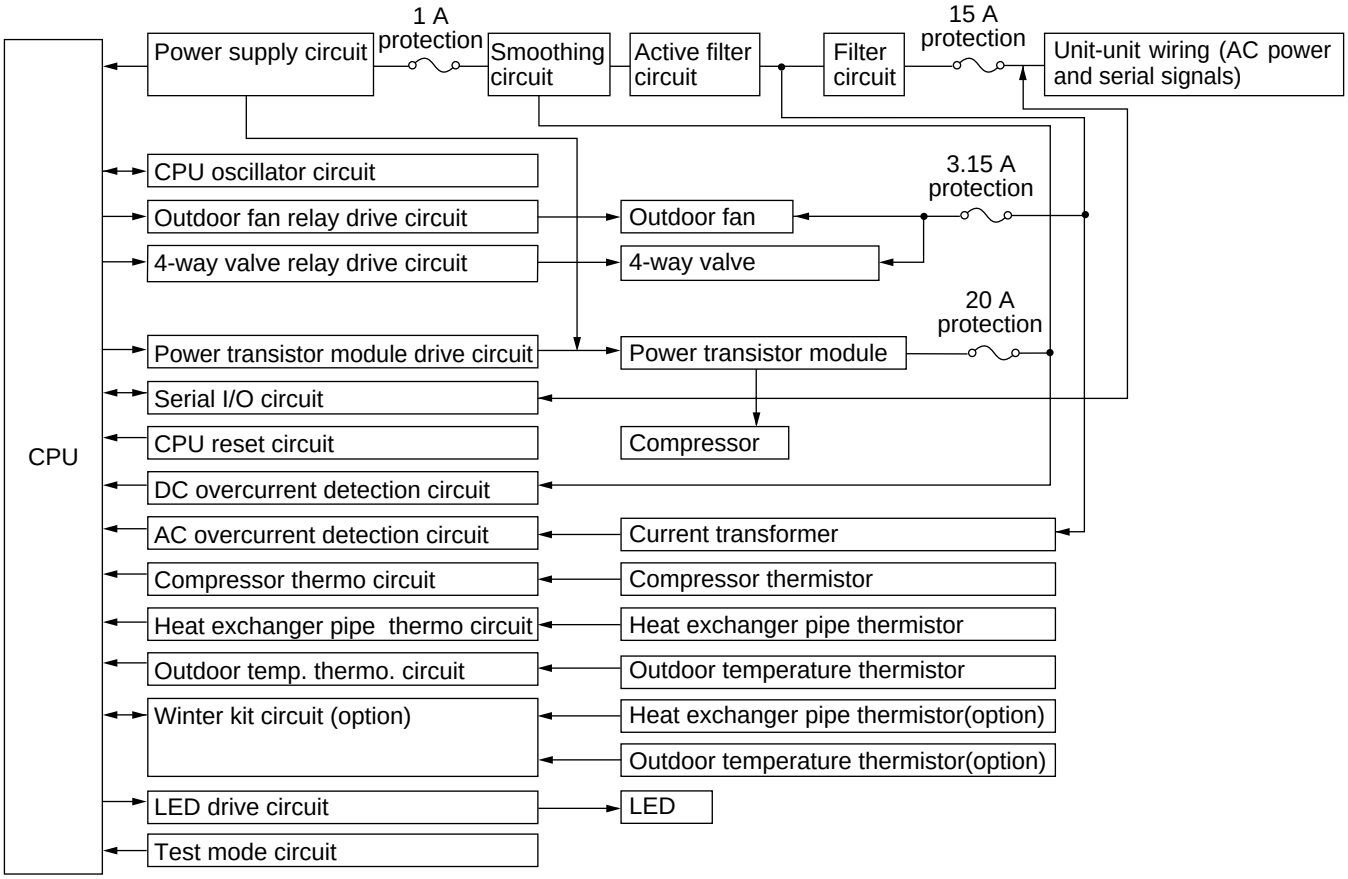
Compressor	DA89X1F-20F	D.C. brush-less motor
Outdoor fan motor	ML-A903	220 - 240V, 50Hz 220V, 60Hz
Outdoor fan motor capacitor	–	450V, 2.0μF
WPE1	–	QFS-GA014JBE0(250V, 20A)
WPE101	–	QFS-GA019JBE0(250V, 20A)
WPE3	–	QFS-GA062JBZZ (250V, 3.15A)
WPE5	–	QFS-GA064JBZZ(250V, 1A)

BLOCK DIAGRAMS

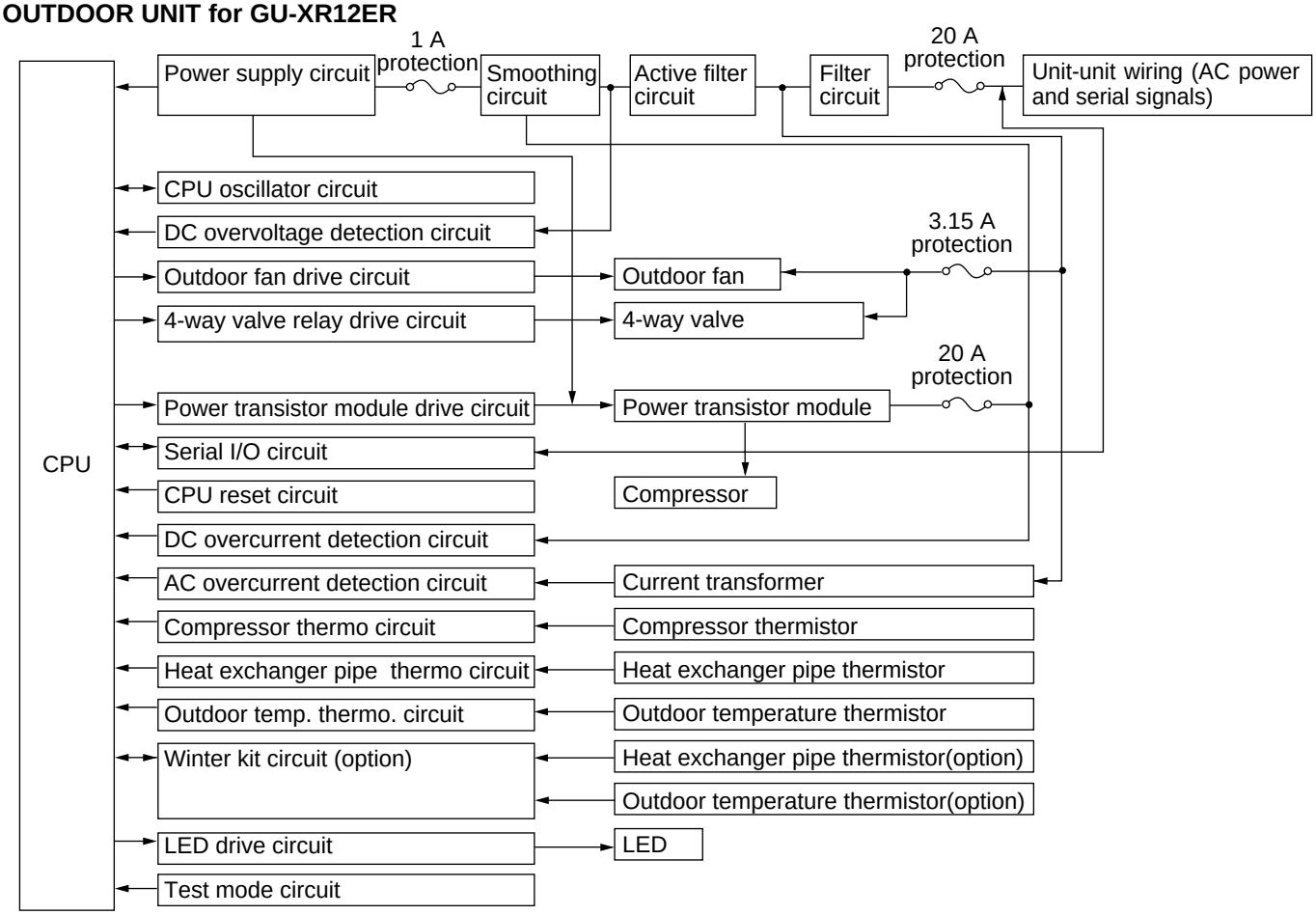
INDOOR UNIT



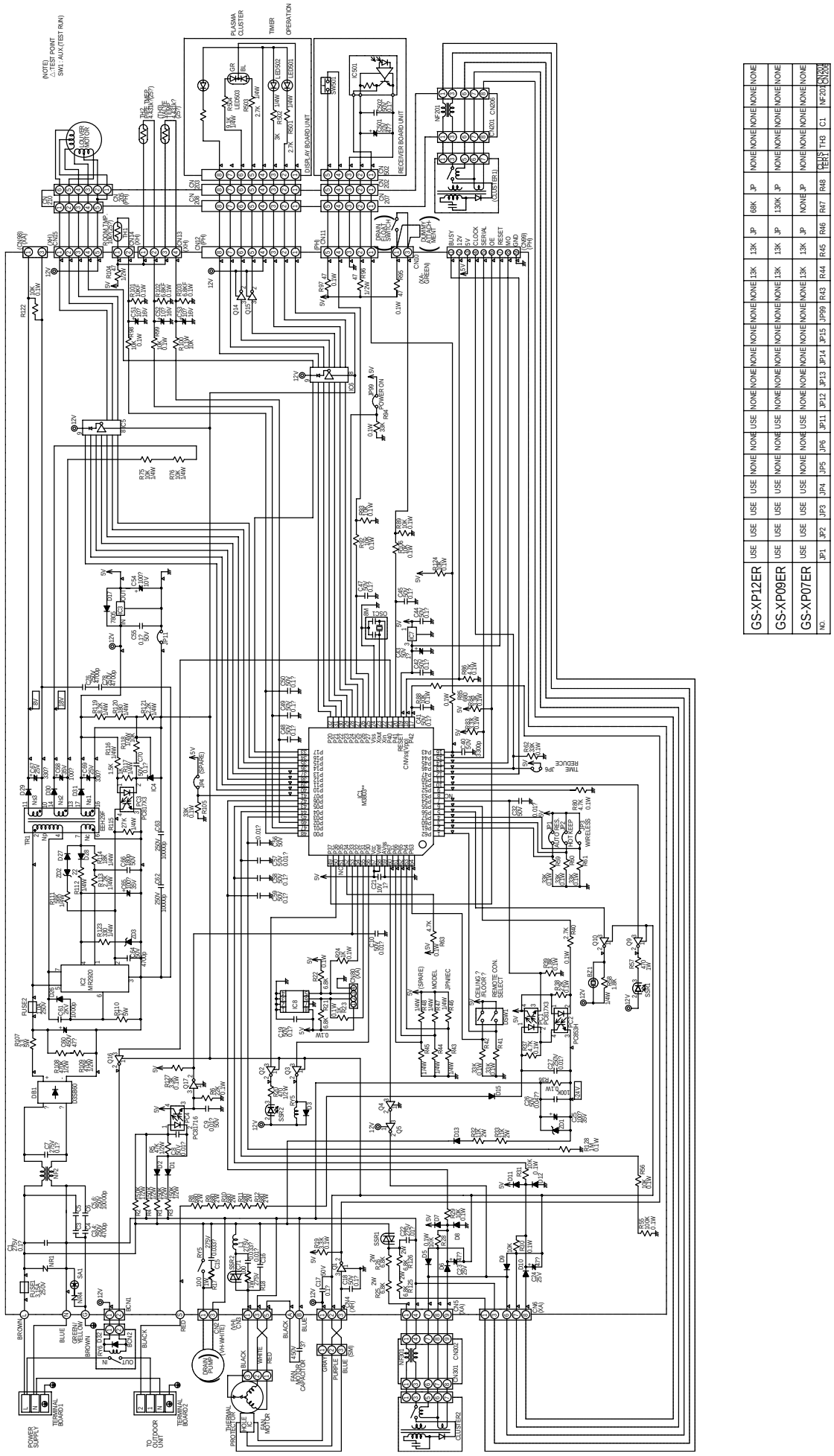
OUTDOOR UNIT for GU-XR07ER / GU-XR09ER



OUTDOOR UNIT for GU-XR12ER



MICROCOMPUTER CONTROL SYSTEM



| | | |

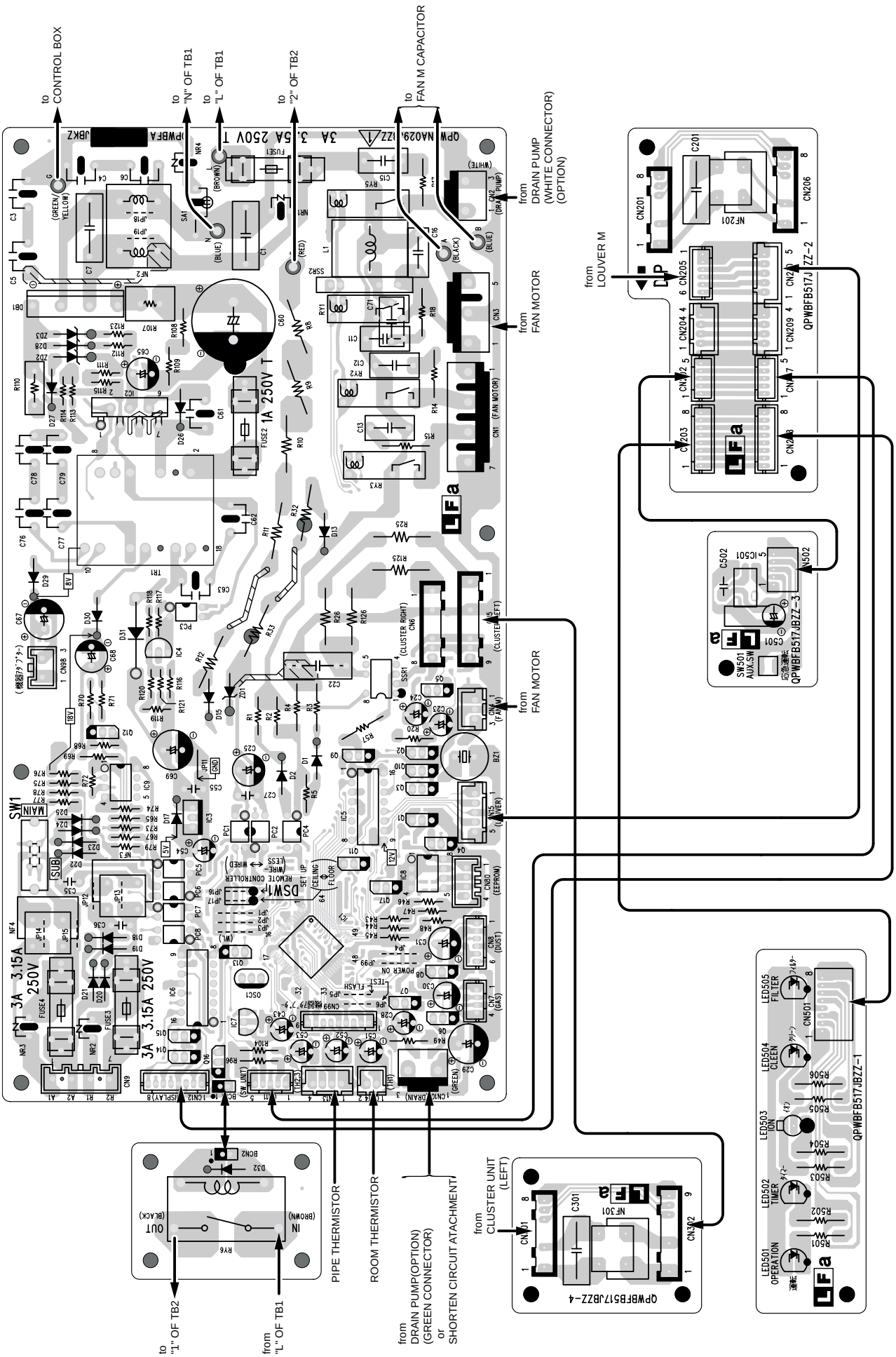


Figure L-2 Printed Wiring Board for GS-XP07ER / GS-XP09ER / GS-XP12ER

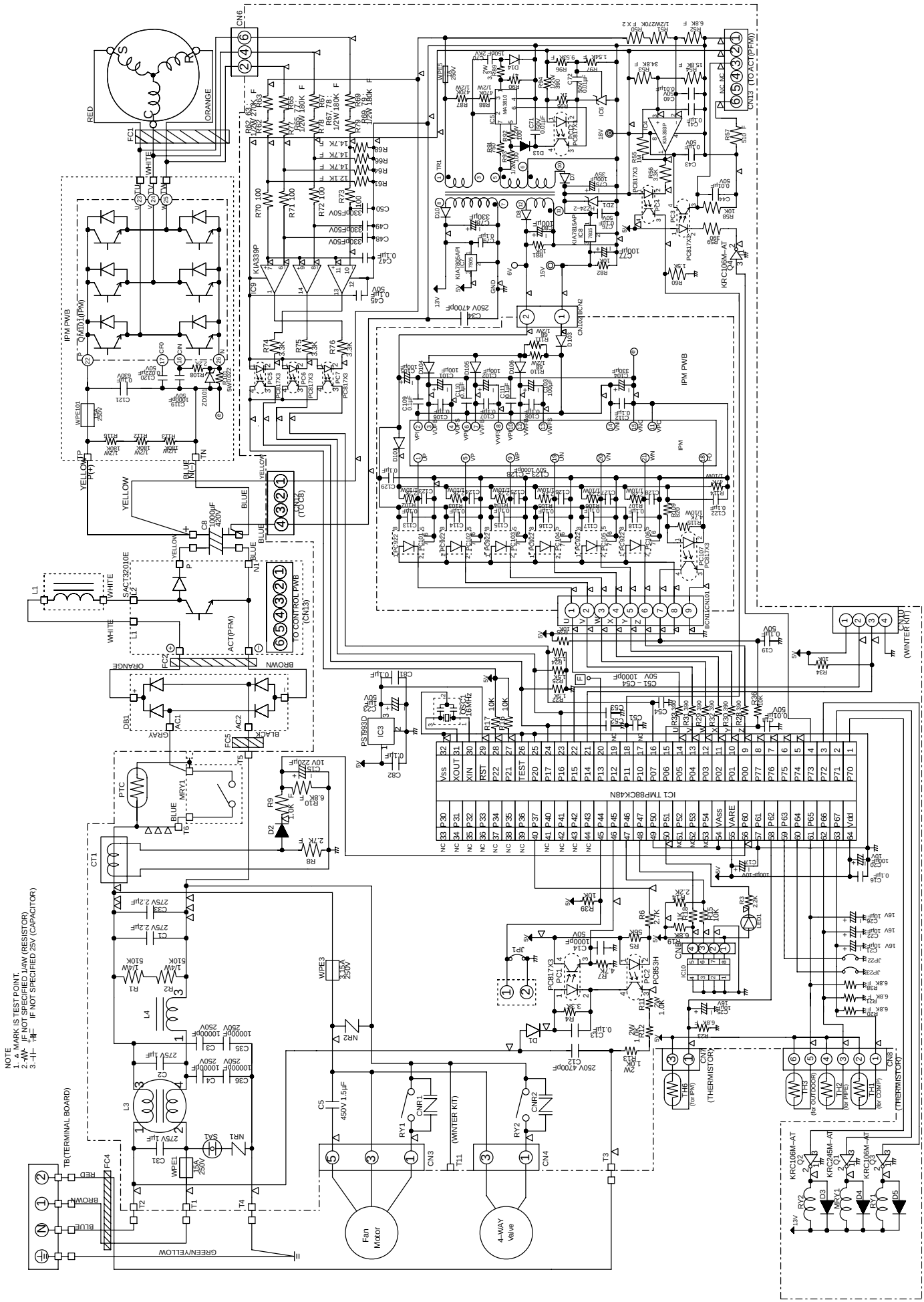


Figure L-3. Electronic Control Circuit Diagram for GU-XR07ER / GU-XR09ER / GU-XR12ER

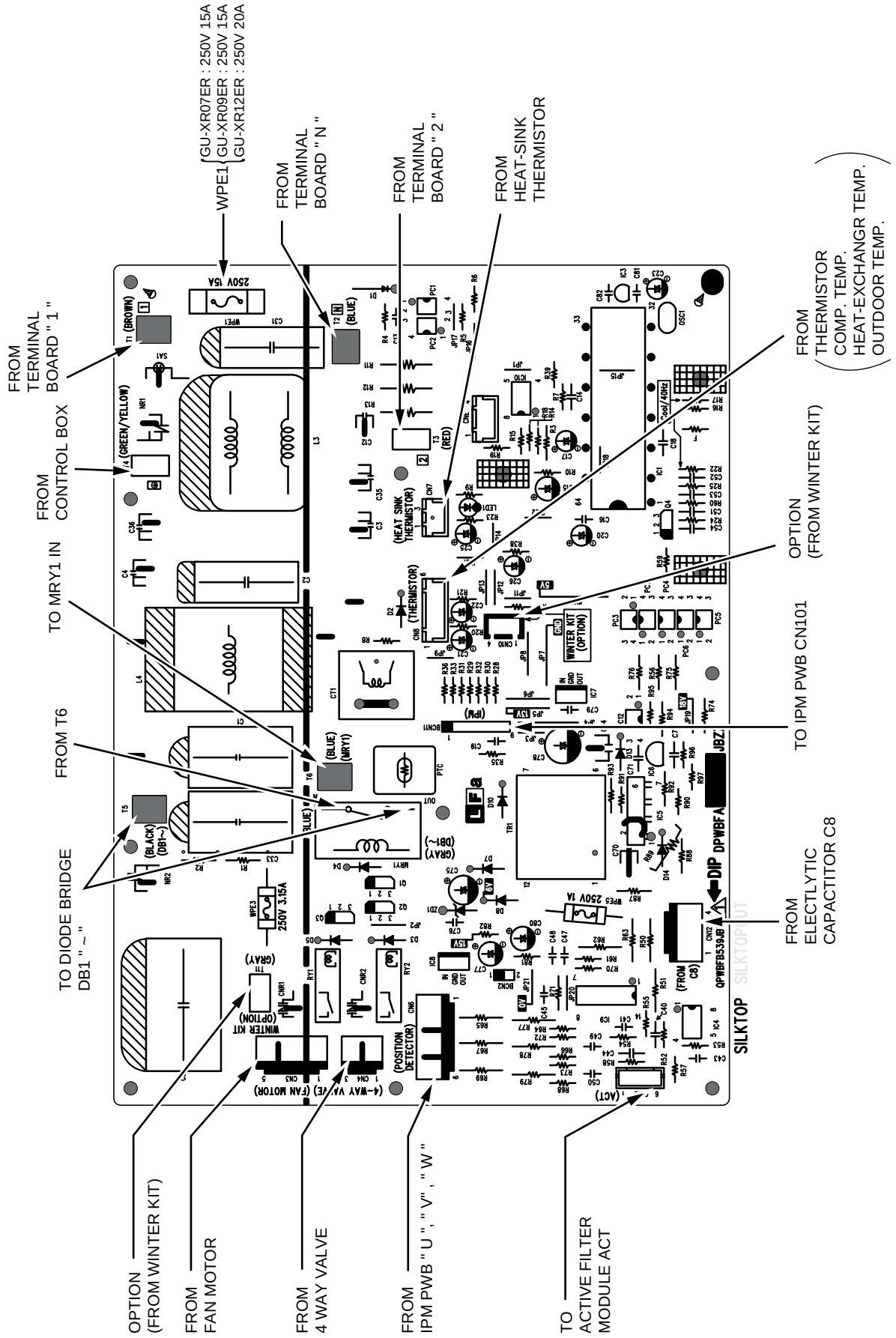

FROM TERMINAL BOARD " 1 "
FROM CONTROL BOX
TO MRY1 IN
FROM T6
TO DIODE BRIDGE DB1 " ~ "
WPE1 { GU-XR07ER : 250V 15A GU-XR09ER : 250V 15A GU-XR12ER : 250V 20A
FROM TERMINAL BOARD " N "
FROM TERMINAL BOARD " 2 "
FROM HEAT-SINK THERMISTOR
FROM THERMISTOR COMP. TEMP. HEAT-EXCHANGR TEMP. OUTDOOR TEMP.
OPTION (FROM WINTER KIT)
TO IPM PWB CN101
FROM ELECTLYTIC CAPACTITOR C8
OPTION (FROM WINTER KIT)
FROM FAN MOTOR
FROM 4 WAY VALVE
FROM IPM PWB " U " " V " " W "
TO ACTIVE FILTER MODULE ACT
SILKTOP

Figure L-4 Printed Wiring Board for GU-XR07ER / GU-XR09ER / GU-XR12ER

FUNCTIONS

1. INDOOR UNIT

1-1 Temperature Adjustment

(1) Cooling

When the room temperature is higher than the preset temperature by 2˚C or more, the unit runs at the maximum operation frequency until the temperature comes down to the preset temperature.
When reaching the preset temperature, the unit runs at the frequency calculated by the fuzzy operation and switches to the normal control.

(2) Heating

When the room temperature is lower than the preset temperature by 3.5˚C or more, the unit runs at the maximum operation frequency until the temperature comes down to the preset temperature.
When reaching the preset temperature, the unit runs at the frequency calculated by the fuzzy operation and switches to the normal control.

(3) Dry

After operation begins, 2 minutes of the room temperature is stored in memory, and that becomes the set value.

1-2 Indoor fan control

(1) Cooling

The fan speed can be selected from "Auto", "Soft", "Low",and "HIgh".When "Soft", "Low" or "HIgh" is selected, the fanspeed is constant regardless of the room temperature.When "Auto" is selected, the fan speed automatically changes between "Soft" and "HIgh" depending on the difference
between the room and preset temperature.

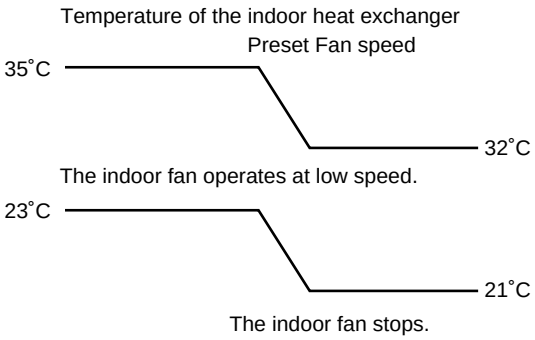
Control for indoor freezing prevention

If the temperature of the indoor heat exchanger stays below approximately 1˚C for four minutes during cooling or dry, this control stops the compressor. Over 3˚C the compressor will run again.

(2) Heating

Control for cold air blowing prevention

When heating begins, this control stops the indoor fan until the temperature of the indoor heat exchanger reaches 23˚C. It also stops the fan if the temperature goes below 21˚C during operation.



1-3 Hot keep

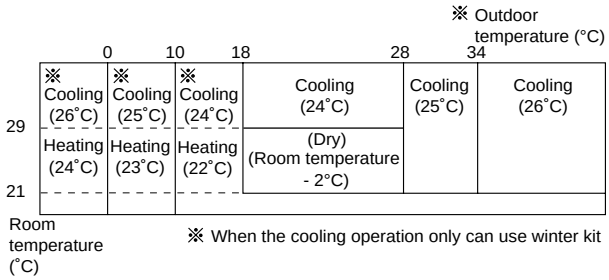
If the room temperature is in the j or k zone during heating, the compressor is turned on and off to prevent overheating.
The fan goes off 30 seconds after the compressor goes off.

Compressor intermittent time	Fan
3 min. on - 3 min. off	Same as Compressor
6 min. on - 8 min. off	After "6 min. on - 8 min.off" is repeated 4 times, the compressor goes off, and only the fan continues to repeat “6 min. on - 8 min.off”.

1-4 Automatic operation

The operating mode and temperature setting are determined by the room temperature and the external air temperature.

The operating mode will changeover automatically with the following condition.



1. From cooling to heating
   Cooling mode will changeover to heating mode when condition of indoor temperature 1.7˚C lower than the set temperature conditions for 5 minutes.
2. From heating to cooling
   Heating mode will change over to cooling mode when condition of indoor temperature 1.3˚C higher than the set temperature conditions for 25 minutes under Hot keep condition.
3. When the set temperature is adjusted within the range of ±2˚C by the remote control’s key.
   (▼ ▲), the changeover judgement room temp. will also be shifted within the range of ±2˚C.

1-5 ON-timer

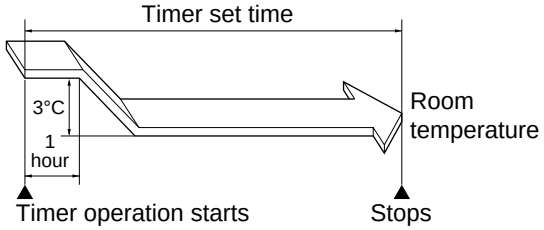
The ON-timer is set by pressing the ON-timer button.
In order to attain the set temperature at the set time.

1-6 OFF-timer

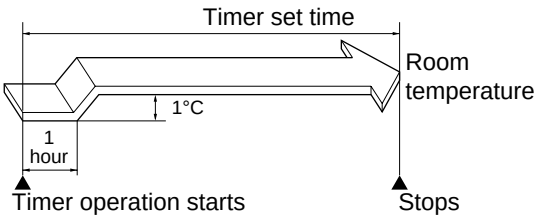
The OFF-timer is set by pressing the OFF-timer button. Operation is as follows:

	Set temperature
Cooling Heating	By fuzzy computing Set the shift up time Final (Cooling setting + 1°C / Heating setting - 3°C)
Dry	Same as above (Final setting + 1°C)

*During Heating



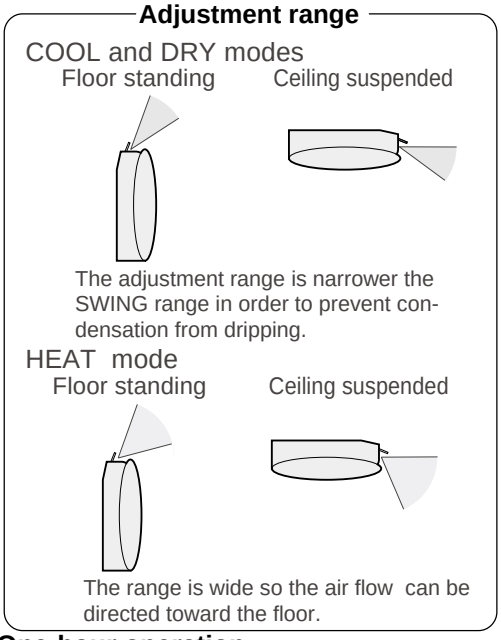
*During Cooling / Dry



1-7 Swing louvre

The louvre is moved by a stepping motor to perform swing and fixing in the set position.
If the "FLOW DIRECTION" button is prossed during swing, it will stop. If the "FLOW DIRECTION" button is pressed while it is stopped, it will swing.
The vertical adjustment louvre will change its angle continuously.
Press the SWING button again when the vertical adjustment louvre is at the desired position.

- The louvre will stop moving within the range shown in the diagram.
- The adjusted position will be memorized and will be automatically set to the same position when operated the next time.


Adjustment range
COOL and DRY modes
Floor standing
Ceiling suspended
The adjustment range is narrower the SWING range in order to prevent condensation from dripping.
HEAT mode
Floor standing
Ceiling suspended
The range is wide so the air flow can be directed toward the floor.

1-8 One-hour operation

If this button is pressed when operation is stopped, operation will begin and then stop after 1 hour.
If pressed when it is operating, will stop after one hour.

1-9 Full power operation

Immediately begins cooling or heating at maximum power and air flow.
(During heating)
Operates at setting of 32 ˚C.
(During cooling)
Operates at setting of 18 ˚C.

1-10 Power ON start

If a jumper wire is inserted into the place indicated JP99 on the indoor control board, and the power plug is inserted. cooling or heating will be automatically determined by the room temperature sensor on the main unit, and operation will begin.

1-11 Auto Restart

When power failure occures, after power is recovered, the unit will automatically restart in the same setting which were active before the power failure.

Operating mode (Cool, Heat, Dry)

- Temperature adjustment (within 2˚C range) automatic operation
- Temperature setting
- Fan setting
- Air flow direction
- Power ON/OFF
- Automatic operation mode setting
- Swing louver

Setting not memorized

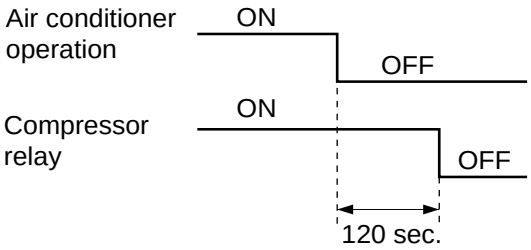
- Timer setting
- Full power setting

1-12 Error diagnostic display

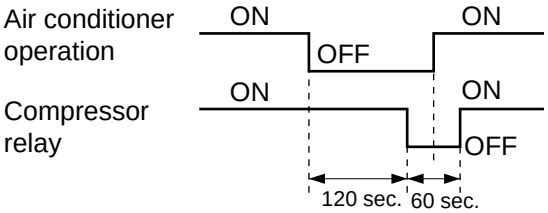
(a) Indoor unit
(1) If the operation is stopped and the emergency operation button is pressed down for 5 seconds or more, the self-diagnosis memory can be recalled.
(2) Details of self-diagnosis (error mode) are informed by the flashing number as well as the lighting pattern of the operation lamp which flashes with the timer lamp.(For details, refer to Error diagnostic method.)

1-13 Compressor relay

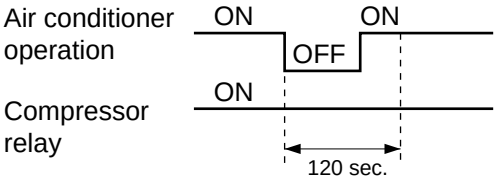
(1) It is ON during operation, and when operation is stopped, goes OFF after a delay of 120 seconds (not immediately).



(2) The minimum OFF time of the relay is 60 seconds. It will not go ON again before 60 seconds elapses.

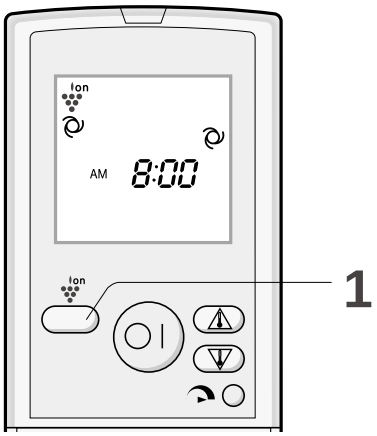


(3) If air conditioner operation is turned on again during the 120 second delay before the compressor relay goes off, the compressor relay will stay on.

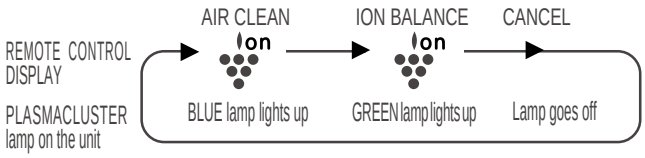


1-14 Plasma cluster operation

You can choose AIR CLEAN OPERATION or ION BALANCE OPERATION



1 During operation, press the PLASMACLUSTER button to select the mode.



- In the AIR CLEAN operation, the blue PLASMACLUSTER lamp on the unit will light up.
- In the ION BALANCE operation, the green PLASMACLUSTER lamp on the unit will light up.

TO CANCEL

Press the PLASMACLUSTER button until PLASMACLUSTER symbol on the remote control display goes off.

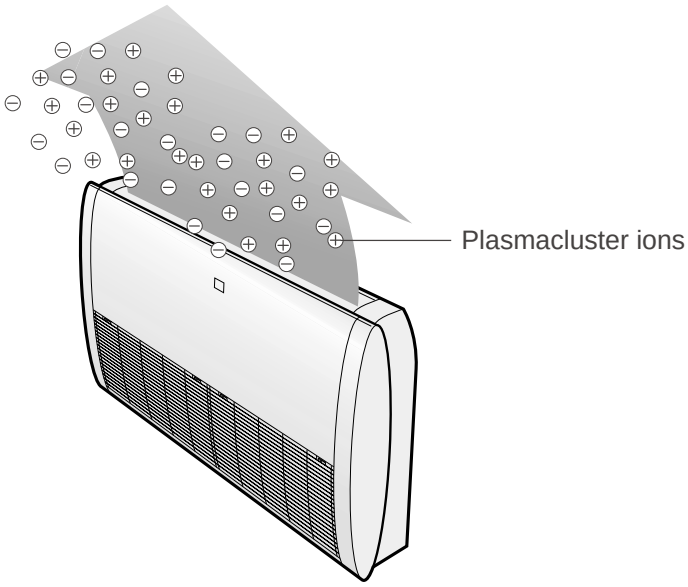
- The PLASMACLUSTER lamp on the unit will turn off.

NOTES:

- Setting of the PLASMACLUSTER operation will be memorized and will operate in the same mode, the next time you turn on the air conditioner.
- When the PLASMACLUSTER button is pressed while the unit is not operating, the PLASMACLUSTER operation will be performed without accompanying air conditioning mode (eg, HEATING or COOLING). The mode symbol of the remote control will go off and the fan speed can not be set AUTO.

1-15 Tip about plasmacluster operation

The Plasmacluster ion generator inside the air conditioner will release Plasmacluster ions, which are collective mass of positive and negative ions, into the room.
The Plasmacluster ions reduce airborne mold fungus.



AIR CLEAN OPERATION
Plasmacluster ions released into the air will reduce airborne mold fungus.

ION BALANCE OPERATION
It is said that plenty of negative ions exist in places such as waterfalls or waterside in natural environment. In this operation mode, negative ions will be released in an increased rate, in order to bring the room air close to this condition.

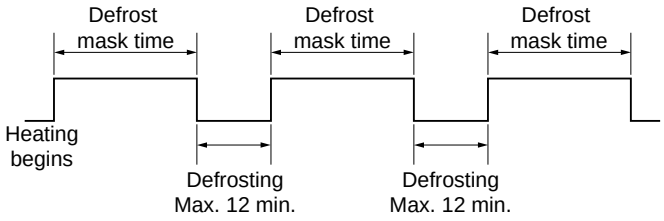
2. OUTDOOR UNIT

2-1 Defrost operation

(1) Overview

Defrosting begins during heating if the conditions for compressor operation time and outdoor heat exchanger temperature are met.

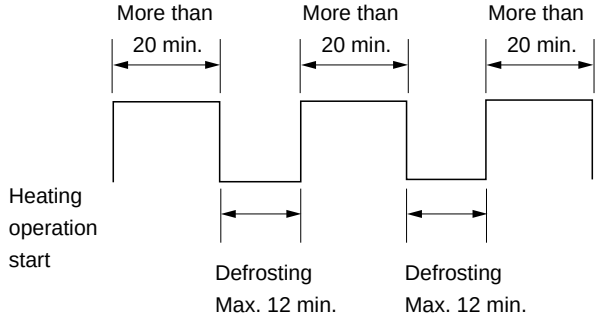
When defrosting begins, the indoor and outdoor fans stop. Defrosting stops when the temperature of the outdoor heat exchanger goes above approximately 5˚C or defrosting time exceeds 12 minutes.



2) Defrosting

If the compressor operation time is more than 20 minutes in the heating mode and the outdoor air temperature and outdoor heat exchange temperature satisfy the defrosting conditions, the defrosting operation is started.

When the outdoor sheat-exchanger temperature reaches approx. 5°C or above or when the defrosting time exceeds 12 minutes, the defrosting operation is quit.



(3) During defrosting

When defrosting begins, the compressor stops. Approximately 1 minutes later, the compressor reactivates in the refrigeration cycle, and the outdoor heat exchanger is defrosted.

Each mode is as follows:

The outdoor fan is stopped

The operating frequency is as shown in the table below The indoor fan is stopped

(4) Defrost stop

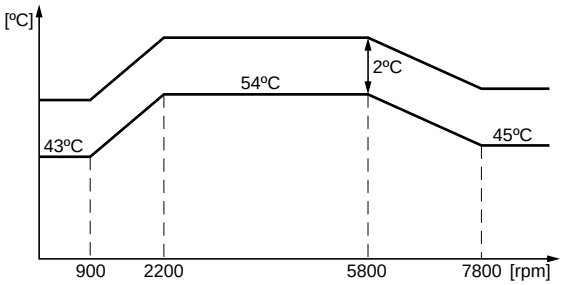
When defrosting time exceeds 12 minutes When the temperature of the outdoor heat exchanger rises above approximately 5˚C Defrost stop is determined by either of the above conditions, and the compressor is stopped. At the same time, the outdoor fan go ON. The compressor is reactivated in the heating cycle 1 minute after it was stopped, and normal control resumes.

2-2 Frequency control

(1) AC current peak control

Model	Set value	
	Cool	Heat
GU-XR07ER	5.3A	5.4A
GU-XR09ER	6.2A	6.7A
GU-XR12ER	7.9A	10.5A

(2) Control for prevention of indoor heat exchanger overheating. If the temperature of the indoor heat exchanger exceeds the overheating prevention line 1 or 2 during heating, the operating frequency is lowered by approximately 5 to 10 Hz. After that, the frequency is lowered by approximately 5Hz once every 60 seconds or 10 Hz once every 120 seconds. When the temperature of the indoor heat exchanger goes below the overheating prevention line 1, the frequency is raised by approximately 5 Hz once every 60 seconds, and normal operation is restored. If the frequency is lowered to minimum frequency without the temperature of the outdoor heat exchanger decreasing and this condition lasts for 1 minute, the compressor will be stopped.



(3) Control for prevention of outdoor heat exchanger overheating.

If the temperature of the outdoor heat exchanger exceeds the overheating prevention line 1 or 2 during cooling, the operating frequency is lowered by approximately 5 to 15 Hz.

After that, the frequency is lowered by approximately 5 once every 60 seconds or approximately 15Hz once every 60 seconds. When the temperature of the outdoor heat exchanger goes below the overheating prevention clear line, the frequency is raised by approximately 5 Hz once every 60 seconds, and normal operation is restored. If the frequency is lowered to minimum frequency without the temperature of the outdoor heat exchanger decreasing and this condition lasts for 1 minute, the compressor will be stopped.

Overheating prevention line 1	56˚C	Lower 5Hz once every 60 seconds
Overheating prevention line 1	58˚C	Lower 15Hz once every 120 seconds
Overheating prevention line 1	55˚C	

4) Control for prevention of discharge overheating
If the discharge temperature exceeds approximately 105°C during compressor operation, the operating frequency is lowered by approximately 5 Hz. After that, the frequency is lowered by approximately 5 Hz once every 60 seconds. When the discharge temperature goes below approximately 104°C, the frequency is raised by approximately 5 Hz once every 60 seconds, and normal operation is restored. If the frequency is lowered to minimum frequencywithout the discharge temperature decreasing and this condition lasts for 1 minute, the compressor will be stopped.

(5) Control for prevention of indoor heat exchanger freezing
If the temperature of the indoor heat exchanger goes below approximately 5°C during cooling(only Full power operation), the operating frequency is lowered by approximately 5 Hz. After that, the frequency is lowered by approximately 5 Hz once every 60 seconds. When the temperature of the indoor heat exchanger rises above approximately 5°C, the frequency is raised by approximately 5 Hz once every 60 seconds, and normal operation is restored. If the temperature of the indoor heat exchanger goes down to approximately 0°C and this condition continues for 4 minutes, the compressor is stopped. When the temperature rises above approximately 2˚C, normal operation is restored.

2-3 Overcurrent protection

(1) AC overcurrent detection
To protect against overcurrent due to sudden changes in load, the compressor is stopped if the set value AC : 12.5A is exceeded in the AC section. In this case, the outdoor fan does not stop, and 180 seconds after operation is stopped, another try will be made. Three retries are allowed. On the fourth retry, a complete stop request signal is sent to the indoor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minutes delay for control of the outdoor unit will not function; therefore, do not cancel by removing the plug and cutting the power.

(2) DC overcurrent detection
To protect against overcurrent due to sudden changes in load, the compressor is stopped if the set value DC : 23A) is exceeded in the DC section. In this case, the outdoor fan does not stop, and 180 seconds after operation is stopped, another try will be made. Seven retries are allowed. On the eight retry, a complete stop request signal is sent to the indoor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minutes delay for control of the outdoor unit will not function; therefore, do not cancel by removing the plug and cutting the power.

2-4 Compressor protector control

If the temperature of the compressor chamber exceeds 114°C, the compressor is stopped. In this case, the outdoor fan does not stop, and when the compressor chamber temperature decreases to 100°C three minutes after operation is stopped, another try will be made. Three retries are allowed. On the fourth retry, a complete stop request signal is sent to the indoor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minute delay for control of the outdoor unit will not function; therefore, do not cancel by removing the plug and cutting the power.

2-5 Power transistor module protector

If the temperature of the heat-sink exceeds 90 °C, the compressor is stopped.
In this case, the outdoor fan does not stop, and when the temperature of the heat-sink decreases to 80 °C 180 seconds after operation is stopped, another try will be made.
Three retries are allowed. On the fourth retry, a complete stop request signal is sent to the indoor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minutes delay for control of the outdoor unit will not function; therefore, do not cancel by removing the plug and cutting the power.
Also if the temperature of the heat-sink exceeds 100˚C, a complete stop request signal is sent to the inddor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minutes delay for control of the outdoor unit will not function ; therefore, do not cancel by removing the plug and cutting the power.

2-6 Power factor module

If a voltage error (over 420V) is detected at power factor module output voltage, 180seconds the compressor is stopped.
In this case, the outdoor fan does not stop, and 180 seconds after operation is stopped, another try will be made. Three retries are allowed. On the fourth retry, a complete stop request signal is sent to the indoor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minute delay for control of the outdoor unit will not function; therefore, do not cancel by removing the plug and cutting the power.

2-7 Serial signals

(1) Serial signals consist of all 96-bit signals.
(2) If the outdoor unit does not receive a serial signal, it will stop approximately 30 seconds later. Note that this is true only of normal operation; in test mode, it does not stop and operation takes place based on the test mode commands.

2-8 Rotation abnormal detection of compressor rotation

If the position detection cannot be performed during feedback operation of compressor operation, operation of the compressor stopped.
In this case, the outdoor fan does not stop, and 180 seconds after operation is stopped, another try will be made.
Seventh retries are allowed. On the eight retry, a complete stop request signal is sent to the inddor unit, and the outdoor unit will remain stopped until reset is performed. At this time, the 3-minutes delay for control of the outdoor unit will not function ; therefore, do not cancel by removing the plug and cutting the power.

TROUBLESHOOTING GUIDE

1. SELF-DIAGNOSIS FUNCTION AND DISPLAY MODE

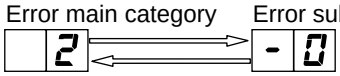
To call out the content of the self-diagnosis memory, hold down the emergency operation button for more than five seconds when the indoor unit is not operating.

(1) The content of the self-diagnosis memory can be called out. (The error data cannot be called out for display by the LED on the outdoor unit.)

(2) If the power cord is unplugged from the AC outlet or the circuit breaker is turned off, the self-diagnosis memory loses the stored data.

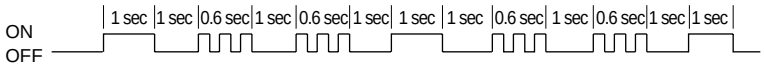
*1: The self-diagnosis display function of the indoor unit indicates the content of diagnosis by showing the error main category (number) and the error sub-category (-number) alternately in 1-second intervals on the seven-segment display section of the indoor unit.

Example of self-diagnosis display on indoor unit : Compressor high-temperature abnormality



*2: The self-diagnosis display function of the outdoor unit indicates the error information by flashing LED1 on the outdoor unit according to the content of self-diagnosis.
The self-diagnosis display function of the outdoor unit is active only for about 3 to 10 minutes after self-diagnosis is performed during operation, and the display returns to normal condition after this display period.
The content of self-diagnosis cannot be called out by the self-diagnosis display function of the outdoor unit.

Example of self-diagnosis display on outdoor unit : Compressor high-temperature abnormality



*3: The content of diagnosis is transferred to the indoor unit via serial communication, but it does not trigger a complete shutdown operation.

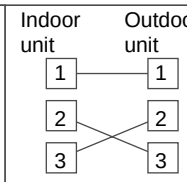
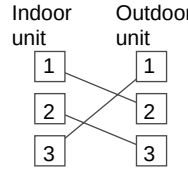
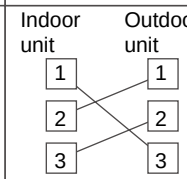
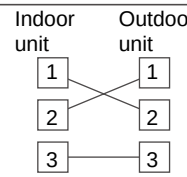
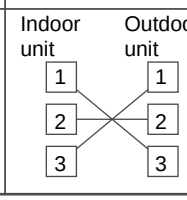
⊗: Flashes in 2-sec intervals (normal), ●: On, ×: Off, ◑: Flashes 3 times in 0.2-sec intervals
(When LED1 on the outdoor unit flashes in 2-sec intervals, the outdoor unit is in normal condition.)

Status of indoor/outdoor units	Indication by LED1 on outdoor unit *2	Malfunction No. displayed on main unit display section *1		Content of diagnosis		Inspection location/method	Remedy
		Main category	Sub-category	Main category	Sub-category		
Indoor/outdoor units in operation	⊗ Normal flashing	0	0		Normal	———	———
Indoor/outdoor units in complete shutdown	◑ 1 time	1	-0	Outdoor unit thermistor short-circuit	Heat exchanger thermistor short-circuit error	(1) Measure resistance of the outdoor unit thermistors. (TH2 to TH5: Approx. 4.4 k at 25ºC) (2) Check the lead wire of the outdoor unit thermistor for torn sheath and short-circuit. (3) No abnormality found in above inspections (1) and (2).	(1) Replace the outdoor unit thermistor assembly. (2) Replace the outdoor unit thermistor assembly. (3) Replace the outdoor unit control PCB assembly.
			-1		Outside temperature thermistor short-circuit error		
			-2		Suction thermistor short-circuit error		
			-3				
Indoor/outdoor units in complete shutdown	◑ 2 time	2	-0	Cycle temperature	Compressor high-temperature error	(1) Check the outdoor unit air outlet for blockage. (2) Check if the power supply voltage is 90 V or higher at full power. (3) Check the pipe connections for refrigerant leaks. (4) Measure resistance of the outdoor unit compressor thermistor. (TH1: Approx. 53 k at 25ºC) (5) Check the expansion valve for proper operation.	(1) Ensure unobstructed air flow from the outdoor unit air outlet. (2) Connect power supply of proper voltage. (3) Charge the specified amount of refrigerant. (4) Replace the outdoor unit compressor thermistor assembly. (5) Replace the expansion valve coil, expansion valve or outdoor unit control PCB assembly.
Indoor unit in operation Outdoor unit in temporary stop			-1		Temporary stop due to compressor discharge overheat *3	(Temporary stop for cycle protection)	———
			-2		Temporary stop due to outdoor unit heat exchanger overheat *3	(Temporary stop for cycle protection)	———
			-3		Temporary stop due to outdoor unit heat exchanger overheat *3	(Temporary stop for cycle protection)	———
			-4			(Temporary stop for cycle protection)	———
Indoor unit in operation Outdoor unit in temporary stop	◑ 3 time	3	-0	Dry operation	Temporary stop due to dehumidifying operation *3	(Temporary stop for cycle protection)	

Status of indoor/outdoor units	Indication by LED1 on outdoor unit *2	Malfunction No. displayed on main unit display section *1		Content of diagnosis		Inspection location/method	Remedy
		Main category	Sub-category	Main category	Sub-category		
Indoor/outdoor units in complete shutdown	◑ 5 time	5	-0	Outdoor unit thermistor open-circuit	Heat exchanger thermistor open-circuit error	(1) Check connector CN8 of the outdoor unit thermistor for secure installation. (2) Measure resistance of outdoor thermistors TH1 to TH5. (3) Check the lead wires of thermistors TH1 through TH5 on the outdoor unit control PCB for open-circuit. (4) No abnormality found in above inspections (1) through (3).	(1) Correct the installation. (2) Replace the outdoor unit thermistor assembly. (3) Replace the outdoor unit thermistor assembly. (4) Replace the outdoor unit control PCB assembly.
			-1		Outside temperature thermistor open-circuit error		
			-2		Suction thermistor open-circuit error		
			-3				
			-4		Discharge thermistor open-circuit error		
Indoor/outdoor units in complete shutdown	◑ 6 time	6	-0	Outdoor unit DC	DC overcurrent error	(1) IPM continuity check (2) Check the IPM and heat sink for secure installation. (3) Check the outdoor unit fan motor for proper rotation. (4) No abnormality found in above inspections (1) through (3). (5) No abnormality found in above inspections (1) through (4).	(1) Replace the outdoor unit control PCB assembly. (2) Correct the installation (tighten the screws). Apply silicon grease. (3) Replace the outdoor unit fan motor. (4) Replace the outdoor unit control PCB assembly. (5) Replace the compressor.
Indoor/outdoor units in complete shutdown	◑ 7 time	7	-0	Outdoor unit AC	AC overcurrent error	(1) Check the outdoor unit air outlet for blockage. (2) Check the outdoor unit fan for proper rotation.	(1) Ensure unobstructed air flow from the outdoor unit air outlet. (2) Check the outdoor unit fan motor.
			-1			(1) IPM continuity check	(1) Replace the outdoor unit control PCB assembly.
			-2		AC maximum current error	(1) Check the outdoor unit air outlet for blockage. (2) Check the outdoor unit fan for proper rotation.	(1) Ensure unobstructed air flow from the outdoor unit air outlet. (2) Check the outdoor unit fan motor.
			-3		AC current deficiency error	(1) Check if there is an open-circuit in the secondary winding of the current transformer of the outdoor unit control PCB. (2) Check if the refrigerant volume is abnormally low. (3) Check if the refrigerant flows properly.	(1) Replace the outdoor unit control PCB assembly. (2) Charge the specified amount of refrigerant. (3) Correct refrigerant clogs. (2-way valve, 3-way valve, pipe, expansion valve)
Indoor/outdoor units in complete shutdown	◑ 9 time	9	-0	Outdoor unit cooling/heating switchover		(1) Check to make sure outdoor unit thermistor TH2 (heat exchanger) and TH5 (2-way valve) are installed in correct positions. (2) Measure resistance of thermistors TH1 and TH5. (3) Check the 4-way valve for proper operation. (4) No abnormality found in above inspections (1) through (3).	(1) Correct the installation. (2) Replace the thermistor assembly. (3) Replace the 4-way valve. (4) Replace the outdoor unit control PCB assembly.
Indoor unit in operation Outdoor unit in temporary stop			-3			(1) Check if the refrigerant volume is abnormally low. (2) Check the 4-way valve for proper operation. (3) Check to see if the compressor type is correct.	(1) Charge the specified amount of refrigerant. (2) Replace the 4-way valve. (3) Replace the compressor with the correct part.
Indoor/outdoor units in complete shutdown	◑ 11 time	11	-0	Outdoor unit DC fan	Outdoor unit DC fan rotation error	(1) Check connector CN3 of the outdoor unit DC fan motor for secure installation. (2) Check the outdoor unit fan motor for proper rotation. (3) Check fuse FU3. (4) Outdoor unit control PCB	(1) Correct the installation. (2) Replace the outdoor unit fan motor. (3) Replace the outdoor unit control PCB assembly. (4) Replace the outdoor unit control PCB assembly.
Indoor/outdoor units in complete shutdown	◑ 12 time	12	-0	Outdoor unit terminal board thermal fuse		(1) Thermal fuse continuity check	(1) Replace the outdoor unit terminal board.
Indoor/outdoor units in complete shutdown	◑ 13 time	13	-0	DC compressor	Compressor startup error	(1) Check the colors (red, white, orange) of the compressor cords for proper connection. (PCB side, compressor side) (2) Check if the IPM terminal resistance values are uniform. (3) No abnormality found in above inspections (1) and (2). (4) No abnormality found in above inspections (1) through (3).	(1) Correct the installation. (U: Red, V: White, W: Orange) (2) Replace the outdoor unit control PCB assembly. (3) Replace the outdoor unit control PCB assembly. (4) Replace the compressor.
			-1		Compressor rotation error		
Indoor/outdoor units in complete shutdown	◑ 14 time	14	-0	Outdoor unit PAM	PAM overvoltage error	(1) Check the AC power supply voltage for fluctuation. (2) No abnormality found in above inspection (1).	(1) Connect stable power supply. (2) Replace the outdoor unit control PCB assembly.
			-1			(1) Check the PAM clock for proper input.	(1) Replace the outdoor unit control PCB assembly.

Status of indoor/outdoor units	Indication by LED1 on outdoor unit *2	Malfunction No. displayed on main unit display section *1		Content of diagnosis		Inspection location/method	Remedy
		Main category	Sub-category	Main category	Sub-category		
Indoor unit in operation Outdoor unit in complete shutdown	●	17	-0	Wires between units	Serial open-circuit	(1) Check the wires between units. (2) Check voltage between Nos. 1 and 2 on the indoor/outdoor unit terminal boards.	(1) Connect stable power supply. (2) Replace the outdoor unit control PCB assembly.
	×				Outdoor unit does not turn on due to erroneous wiring	(1) Check the wires between units. (2) Check the outdoor unit fuse. (3) Check 15-V, 13-V and 5-V voltages on the PCB. Check resistance between IPM terminals. (4) Check pins No. 5 and 7 of connector CN3 of the outdoor unit fan motor for short-circuit. (5) Outdoor unit control PCB	(1) Correct the wiring. (2) Replace the fuse/outdoor unit control PCB assembly. (3) Replace the outdoor unit control PCB assembly. (4) Replace the outdoor unit fan motor. (5) Replace the outdoor unit control PCB board.
	●	18	-0	Wires between units	Serial short-circuit	(1) Check the wires between units.	(1) Correct the wiring.
			-1		Serial erroneous wiring	(1) Check the wires between units.	(1) Correct the wiring.
Indoor/outdoor units in complete shutdown	×	19	-0	Indoor unit fan	Indoor unit fan error	(1) Check the indoor fan motor for proper rotating operation. (Check fan lock.) (2) Check the lead wire of the indoor fan motor for open-circuit. (3) Check CN1 of the indoor unit fan motor for secure installation. (4) No abnormality found in above inspections (1) through (3).	(1) Replace the indoor fan motor. (2) Replace the indoor fan motor. (3) Correct the installation of CN1 of the indoor fan motor. (4) Replace the indoor unit control PCB.
Indoor/outdoor units in operation	×	20	-0	Indoor unit control PCB	EEPROM data error	(EEPROM read data error)	(1) Replace the indoor unit control PCB.
Indoor/outdoor units in complete shutdown	×	21	-0	Cleaner switch		(1) Check the louver frame for proper installation. (2) Check the lead wire of the cleaner switch.	(1) Correctly install the louver frame. (2) Replace the switch.
Indoor/outdoor units in operation	×	22	-0 -1 -2	Cluster circuit	Cluster voltage error	(1) Check if the cluster feedback voltage is proper (0.1 V to 4.9 V). (2) Check CN5 of the cluster for secure installation.	(1) Replace the cluster unit. (2) Correctly install CN5 of the cluster.

Malfunction indications due to erroneous wiring during air conditioner installation

Inter-unit wiring error mode		Symptom	Inter-unit wiring error mode		Symptom
I		Indoor unit relay Turns On momentarily, then turns Off. Malfunction diagnosis display " 18-1"	IV		Indoor unit relay Turns On momentarily, then turns Off. Malfunction diagnosis display " 18-1"
II		Indoor unit relay Relays turns Off after about 8 minutes. Malfunction diagnosis display None (Displays " 18-0" when malfunction code is called out.)	V		Indoor unit relay Turns On momentarily, then turns Off. Malfunction diagnosis display " 18-1"
III		Indoor unit relay Relays turns Off after about 8 minutes. Malfunction diagnosis display None (Displays " 18-0" when malfunction code is called out.)			

FUNCTION AND OPERATION OF PROTECTIVE PROCEDURES

● : Blinks at 2-second intervals　× : OFF　◯ : ON　◎ : Blinks 3 times at 0.2-second intervals

Condition of indoor and outdoor unit	Display by indoor unit operation lamp Displayed in a pattern which comes on at the same time as the timer lamp 4 seconds off ◯ × ◯ × ◯ × ◯ × ◯	Display by outdoor unit lamp LED 1	Diagnosis	What to check, procedure	Solution
Normal	× × × × ×	●	Normal	———	———
Indoor and outdoor unit completely stopped	× × × × ◯	◎ Once	Short circuit of the thermistor error	1. Measure the resistance of thermistor TH2 on the outdoor unit (see Figure 2).	1. Replace the outdoor thermistor assembly.
	× × × ◯ ×	◎ Twice	Overheat error (compressor, Power module) (protector operating) or outdoor compressor thermistor (TH1) short and heat-sink thermistor (TH6)	1. Is the discharge outlet of the outdoor unit clogged ? 2. Is the power supply voltage at least 198 V at full power operation ? 3. Check for refrigerant leaks at the tubing connections. 4. Measure the resistance of compressor thermistor TH1 on the outdoor unit (see Figure 2). 5. Measure the resistance of heat exchanger pipe thermistor TH2 on the indoor unit (see Figure 1).	1. Clear the discharge outlet. 2. Assure power supply voltage. 3. Refill to rated amount. 4. Replace the outdoor ther-mistor assembly. 5. Replace the indoor control board assembly or only TH2.
	× × ◯ ◯ ×	◎ 6 times	Power module (IPM) abnormality	1. Check the circuit in the power transistor module. 2. Is the outdoor fan revolving ?	1. Replace power transistor module
	× × ◯ × ◯	◎ 5 times	Open circuit of the thermistor error	1. Are the connectors of the outdoor unit thermistors well attached ? 2. Measure the resistance of thermistors TH1 and TH2 on the outdoor unit (see Figure 2).	1. Reattach. 2. Replace the outdoor thermistor assembly.
	× × ◯ ◯ ◯	◎ 7 times	AC abnormal current error AC overcurrent error	1. Can voltage be detected at the current transformer on the outdoor unit control board? 2. Is the discharge outlet of the outdoor unit clogged ?	1. Replace the outdoor control board assembly (Current transformer wire break.) 2. Clear the discharge outlet.
	× ◯ ◯ ◯ ×	◎ 14 times	Power factor module error	1. Check wiring of power factor module. (BCN13)	1. Replace the power factor module.
	× ◯ ◯ × ◯	◎ 13 times	Rotation error of the comressor	1. Has not if escaped from the compressor CN16? 2. Is the power supplied of 15V and 6V supplied to the IPM PWB. (BCN2)	1. Reattach. 2. Reattach CN101 and CN102, otherwise replace power transistor module assembly or outdoor control board assembly.
Indoor unit operating Outdoor unit completely stopped	◯ × × ◯ ◯	×	Indoor fan out of order	1. Is the fan motor locked ? 2. Is the wiring connector firmly fitted ? 3. Is the rotation pulse signal applied to the motor ?	1. Replace fan motor 2. Reattach. 3. Replace the indoor control board assembly.
	◯ × × ◯ ×	◯	Serial short	1. Check the wiring between units.	1. Rewire.
	◯ × × × ◯	◯	Serial open	1. Check the wiring between units.	1. Rewire.
		×	Outdoor power supply does't turn on. Wiring mistake.	1. Check the wiring between units. 2. Check the fuse in the outdoor unit. 3. Indoor control board. 4. Outdoor control board.	1. Rewire. 2. Replace the fuse, replace the outdoor board assembly. 3. Replace the control board. 4. Replace the control board.
Only recall of self-diagnosis memory. Indoor and outdoor units are not stopped.	◯ × ◯ ◯ ×	●	Cluster generator circuit error	1. Check the wiring between parts. 2 Indoor control board. 3. Hi-voltage unit.	1. Rewire. 2 Replace the control board. 3. Replace the Hi-voltage unit.

Note: 1. Normal : Only the timer lamp blinks.
Error : Displayed by blinking of run lamp (above table).
2. If the power plug is removed from the outlet or the breaker is switched to "OFF", the self-diagnostic memory will be erased.
3. Example of outdoor unit LED 1 blinking.

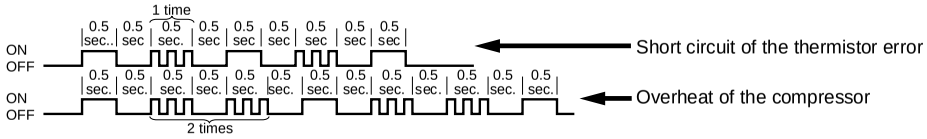
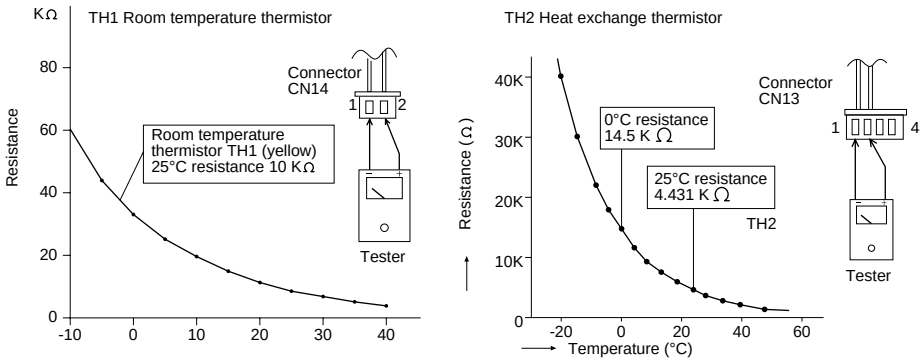
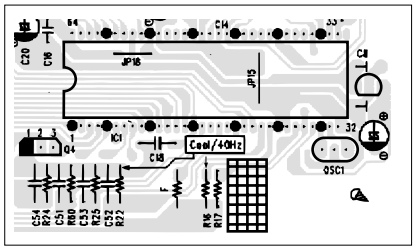


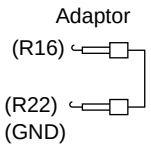
Figure 1 Temperature properties of indoor thermistors



Cautions when attaching or removing the board

When operating only the outdoor unit (cooling 40 Hz fixed mode) To make only the outdoor unit run in cooling mode, short the places marked with arrows below with an adaptor, and apply a voltage of 220 ~ 240 V AC to 1 and N on the terminal board.
(Avoid operating the outdoor unit alone for long periods of time.)

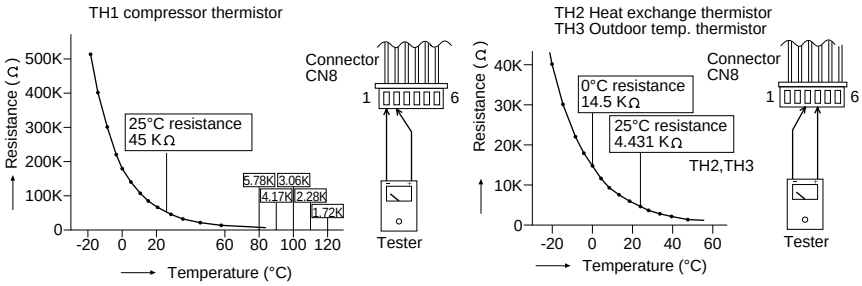




Microcomputer terminal	Input signal
Pin No. 27	0
Pin No. 28	1

To Outdoor control board
0 ····· Low input
1 ····· High input

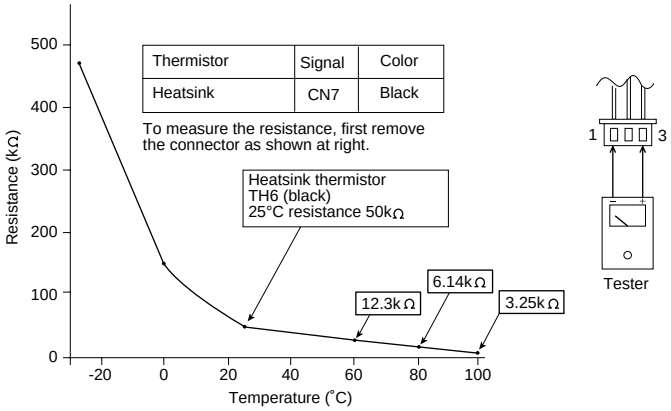
Figure 2 Temperature properties of outdoor thermistors



Thermistor	No.	Connector	Color
Compressor thermistor	TH1	No. 1 to 2	Red
Heat exchanger pipe thermistor	TH2	No. 3 to 4	Orange
Outdoor temp. thermistor	TH3	No. 5 to 6	Green

To measure the resistance, first remove the connector from the board.

Figure 3 Temperature properties of heatsink thermistors



REFRIGERATION CYCLE

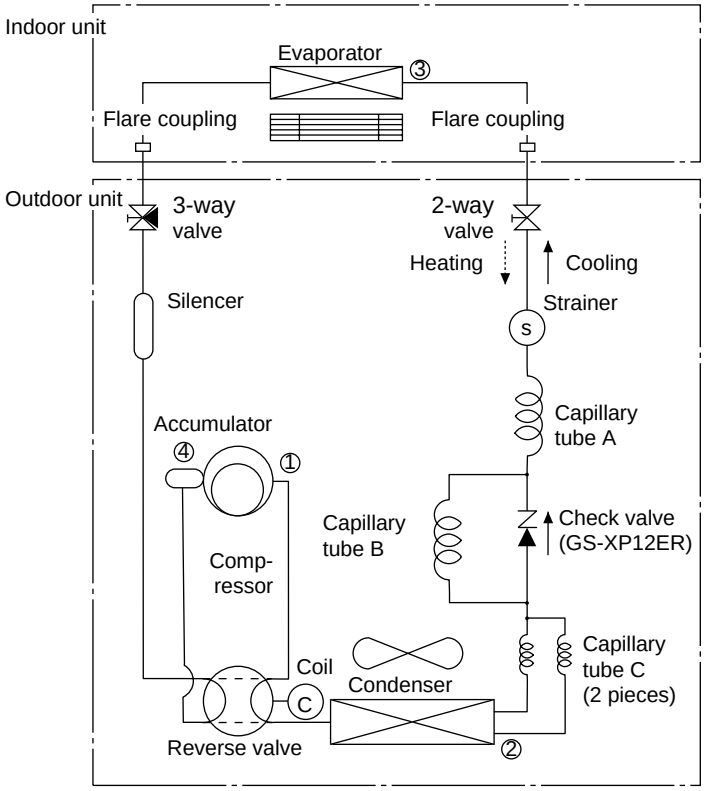


Figure R-1. Refrigeration Cycle for GS-XP07ER / GS-XP09ER / GS-XP12ER

Standard conditions:
GS-XP07ER / GS-XP09ER / GS-XP12ER

	Indoor side		Outdoor side	
	Dry-bulb Temp. (˚C)	Relative Humidity (%)	Dry-bulb Temp. (˚C)	Relative Humidity (%)
Cooling	27	47	35	40
Heating	20	—	7	87

Temperature at each part and pressure in 3-way valve

Model	GS-XP07ER				GS-XP09ER				GS-XP12ER			
Operation mode	Cool (Max.)	Heat (Max.)	Cool	Heat	Cool (Max.)	Heat (Max.)	Cool	Heat	Cool (Max.)	Heat (Max.)	Cool	Heat
Hz / No.	68	more than 70	50 settle	50 settle	80	more than 90	50 settle	50 settle	101	more than 110	50 settle	50 settle
①	77˚C	70˚C	70˚C	55˚C	89˚C	82˚C	69˚C	55˚C	98˚C	93˚C	62˚C	43˚C
②	45˚C	1˚C	43˚C	3˚C	44˚C	1˚C	43˚C	3˚C	41˚C	1˚C	40˚C	3˚C
③	15˚C	35˚C	17˚C	35˚C	16˚C	35˚C	17˚C	35˚C	16˚C	33˚C	17˚C	31˚C
④	14˚C	6˚C	17˚C	2˚C	17˚C	7˚C	16˚C	2˚C	18˚C	8˚C	14˚C	3˚C
3-way valve pressure (MPaG)	0.88	2.40	1.07	2.10	0.88	2.49	1.05	2.10	0.81	2.90	1.10	1.93

Dimension of Capillary tube

	GS-XP07ER			GS-XP09ER			GS-XP12ER		
Model	O.D	I.D	L	O.D	I.D	L	O.D	I.D	L
Capillary tube A	ø2.7	ø1.5	800	ø2.7	ø1.5	800	ø2.7	ø1.6	900
Capillary tube B							ø2.7	ø1.6	300
Capillary tube C	ø2.7	ø1.5	150	ø2.7	ø1.5	150	ø2.7	ø1.5	150

PERFORMANCE CURVES

NOTE: 1) Indoor fan speed: Hi
2) Vertical adjustment louver "0˚", Horizontal adjustment louver "front"
3) Indoor air temp. : Cooling 27˚C, Heating 20˚C

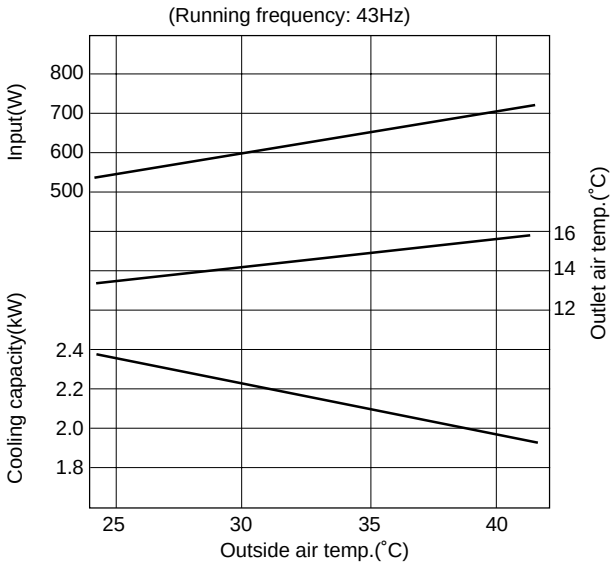


Figure P-1. At Cooling for GS-XP07ER

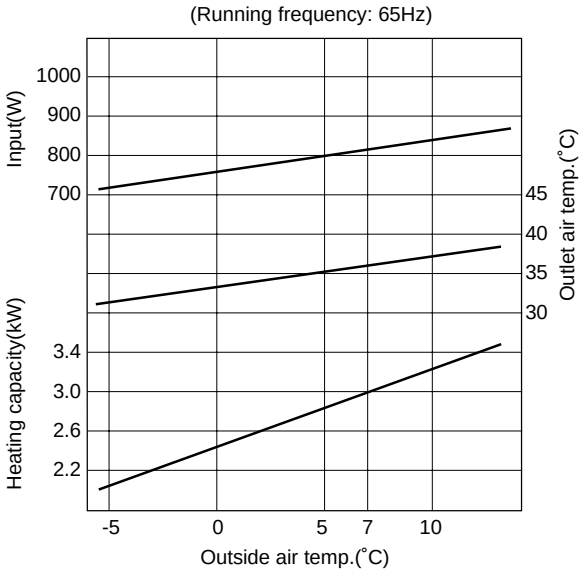


Figure P-2. At Heating for GS-XP07ER

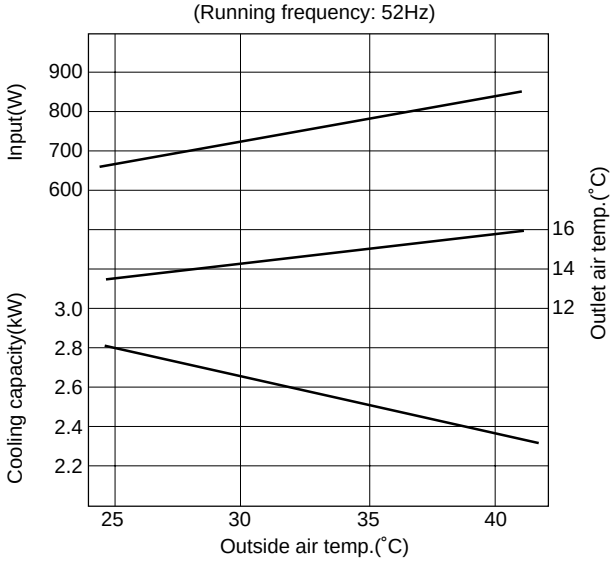


Figure P-3. At Cooling for GS-XP09ER

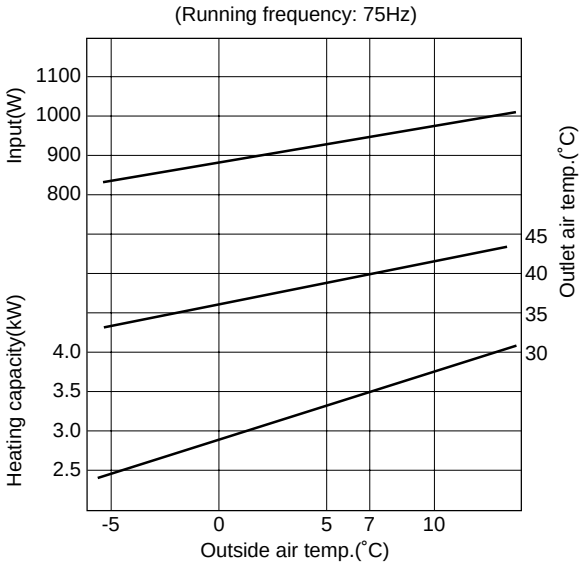


Figure P-4. At Heating for GS-XP09ER

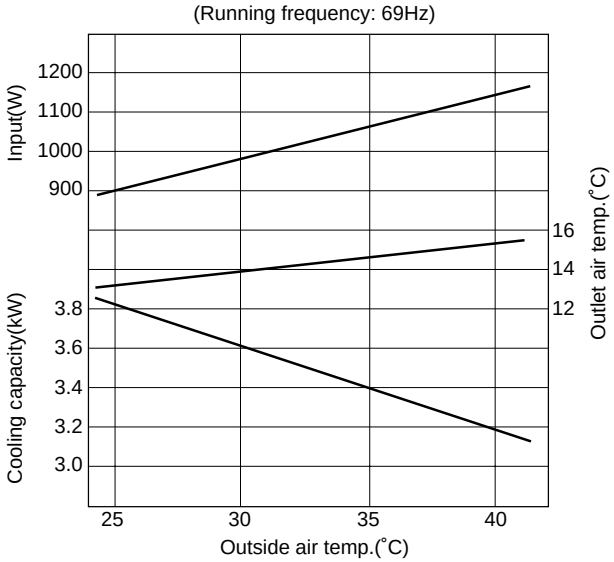


Figure P-5. At Cooling for GS-XP12ER

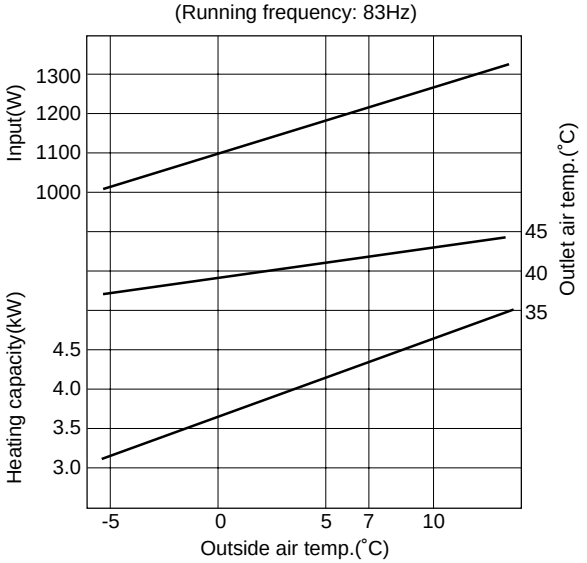


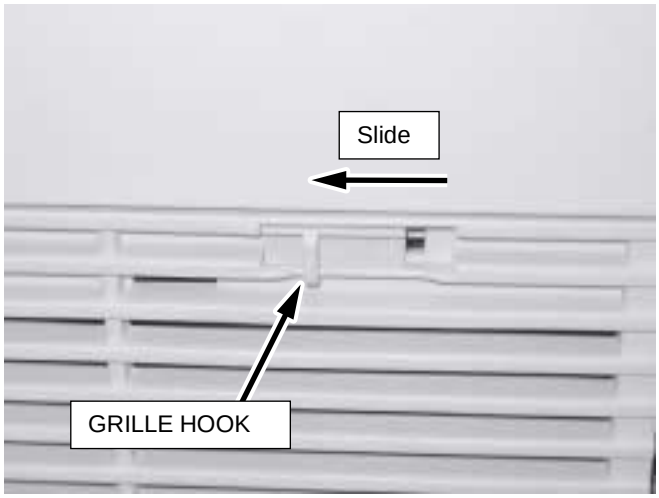
Figure P-6. At Heating for GS-XP12ER

DISASSEMBLING PROCEDURE

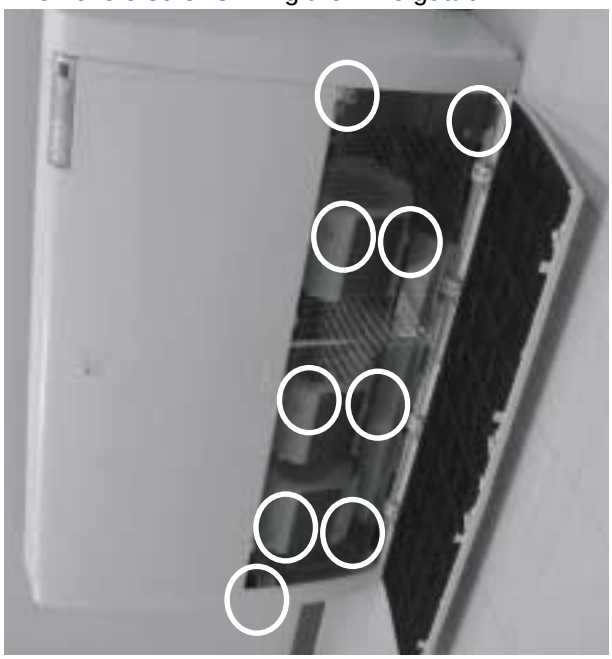
FOR INDOOR UNIT [GS-XP07ER / GS-XP09ER / GS-XP12ER]

CAUTION: DISCONNECT THE UNIT FROM POWER SUPPLY BEFORE ANY SERVICING.

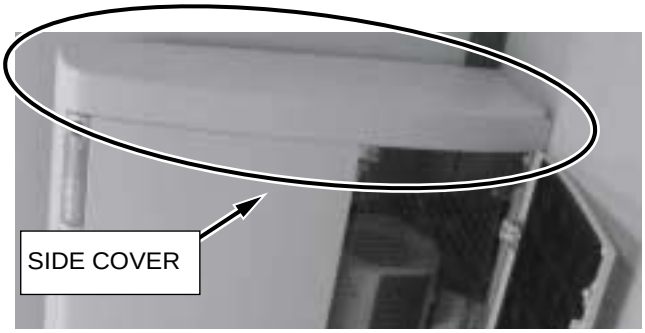
1. Slide 2 Grille hooks to the left, and open the Grille. (Right and left Grille.)

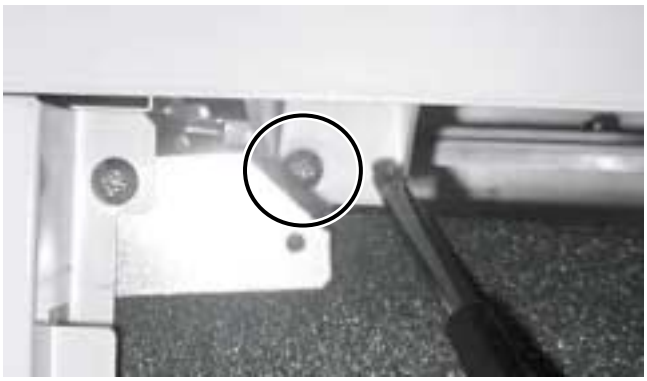


2. Remove 9 screws fixing the Wire guard.

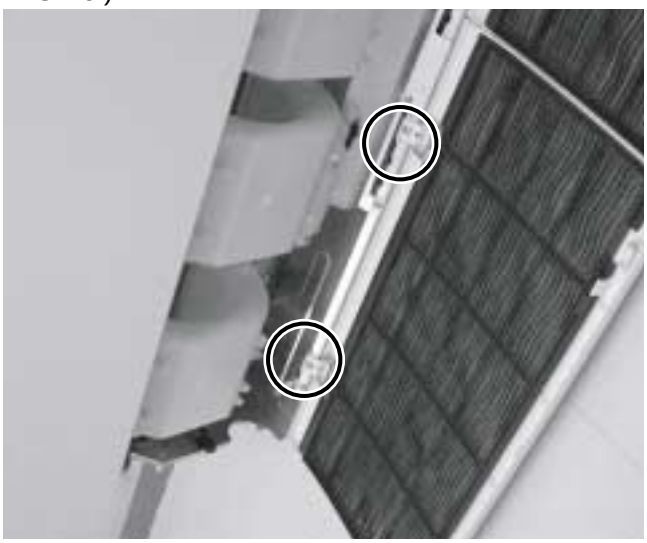


3. Remove the screw fixing the Side cover. (Right and left Side cover.)

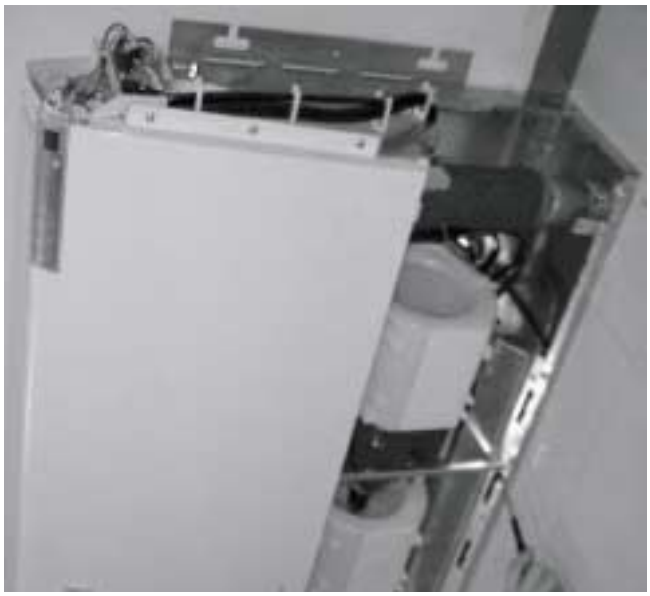




4. Remove 2 screws fixing the Grille. (Right and left Grille.)

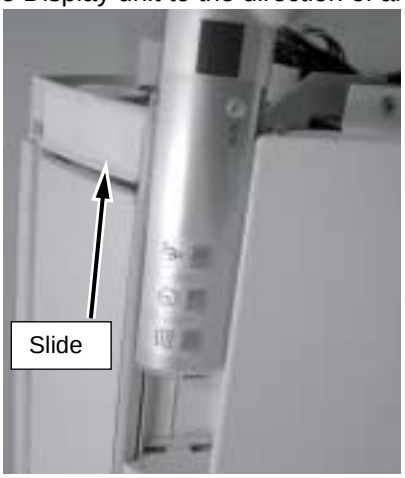


5. Remove 1 screw fixing the Angle.
   Remove the Angle to the direction of arrows.

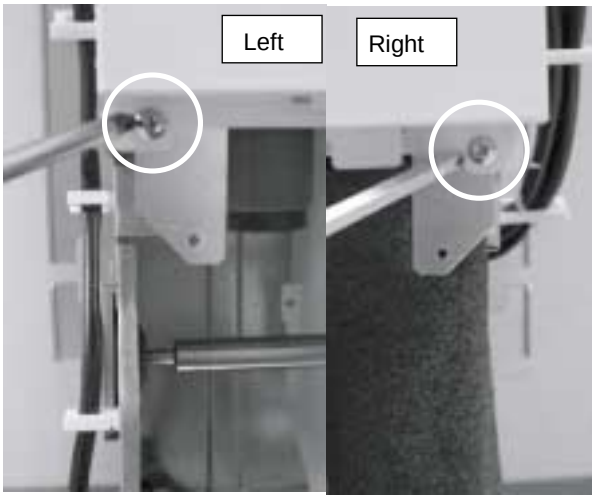


6. Cut the fixing band .
   Disconnect 2 connectors (CN202, CN203).
   Remove the screw fixing the Display unit.

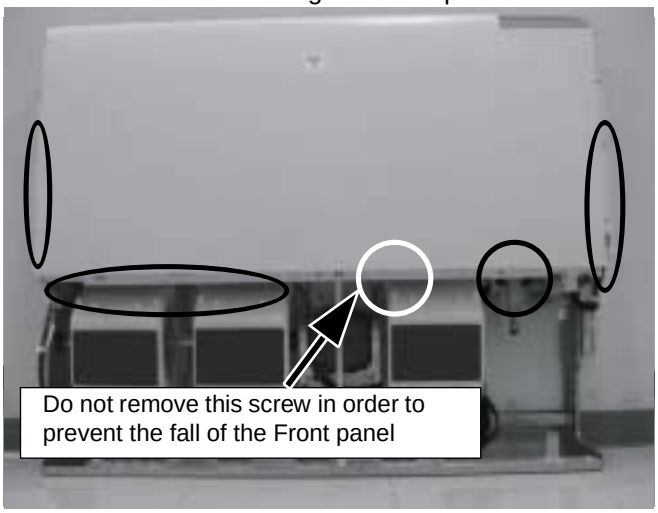
7. Slide the Display unit to the direction of arrow.



8. Remove 2 screws fixing the Angle to the Front panel.

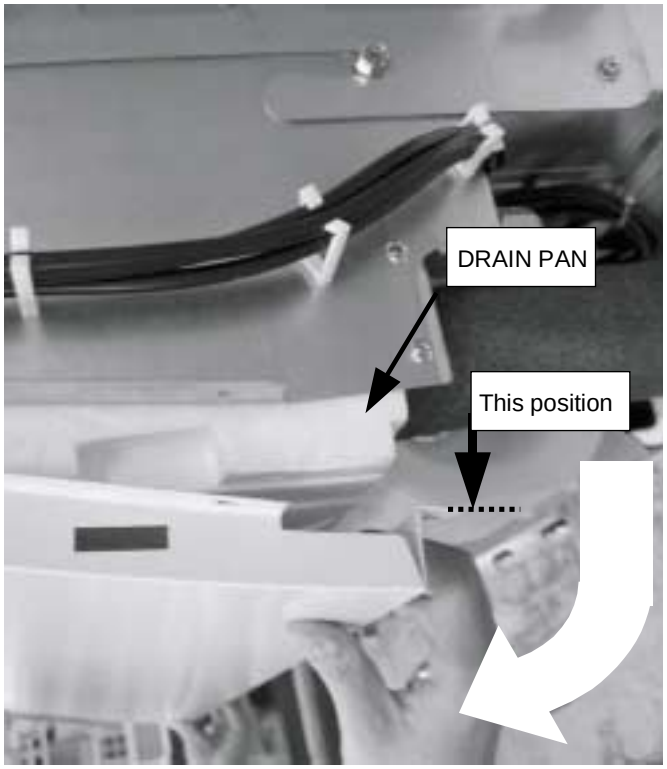


9. Remove 8 screws fixing the Front panel.

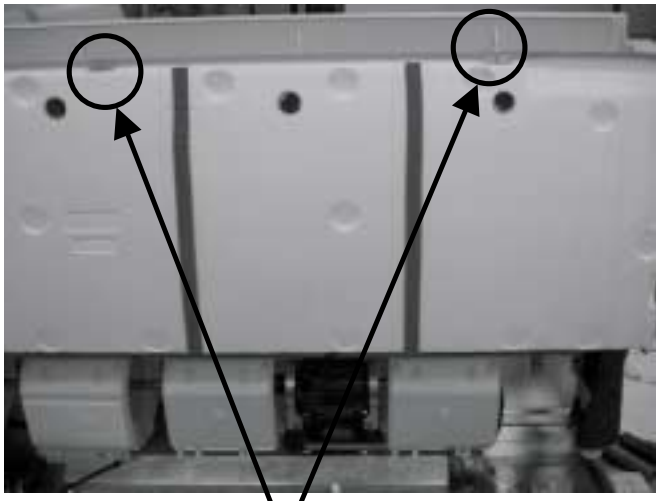


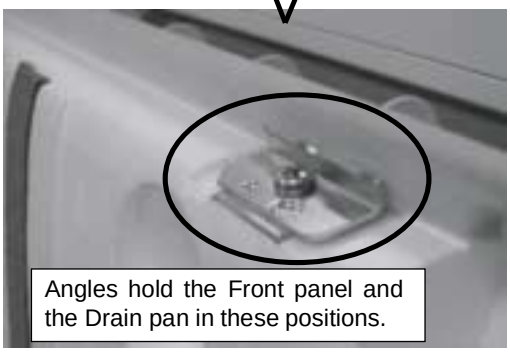
10. Support the Front panel with your hand, and remove the screw.

11. Remove the Front panel to the position where the Front panel is separated from the Drain pan.

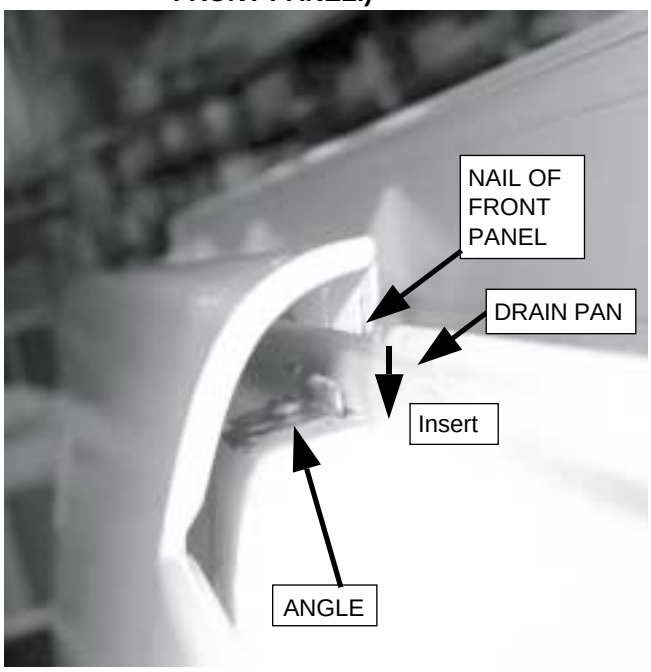


12. Remove the Front panel to the direction of arrow.
CAUTION: DO NOT DAMAGE THE DRAIN PAN WITH THE DISPLAY HOLDER.



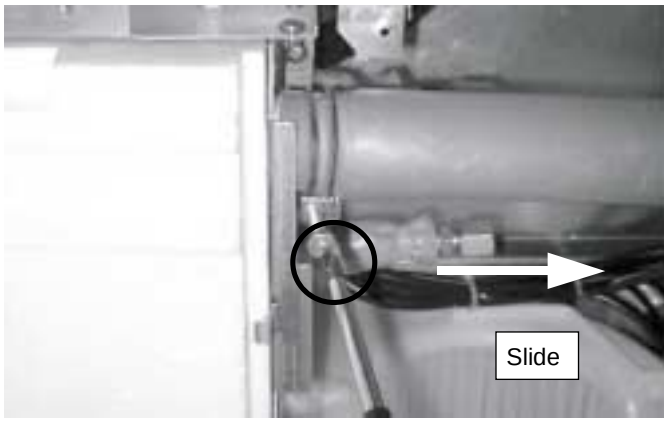


CAUTION: WHEN YOU ASSEMBLE THE FRONT PANEL TO DRAIN PAN, INSERT NAIL OF THE FRONT PANEL BETWEEN ANGLE AND DRAIN PAN (2 POSITIONS). (ACTUALLY ASSEMBLE THE FRONT PANEL TO THE DRAIN PAN AFTER FIXING THE DISPLAY HOLDER TO THE FRONT PANEL.)

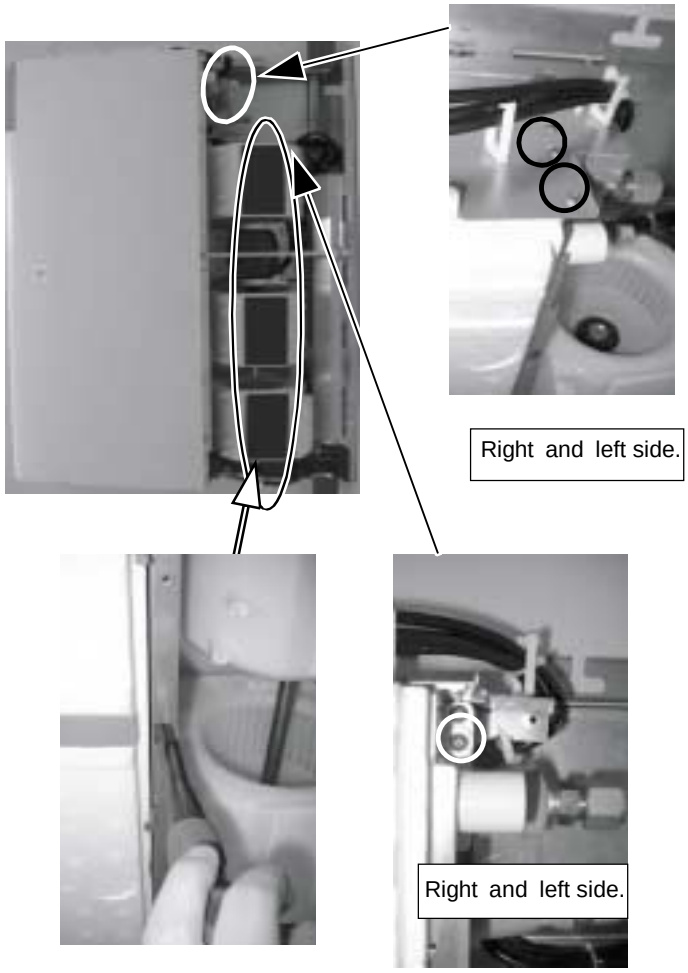


CAUTION: DISCHARGE THE WATER IN THE DRAIN PAN ASS'Y BEFORE REMOVING THE DRAIN PAN ASS'Y.

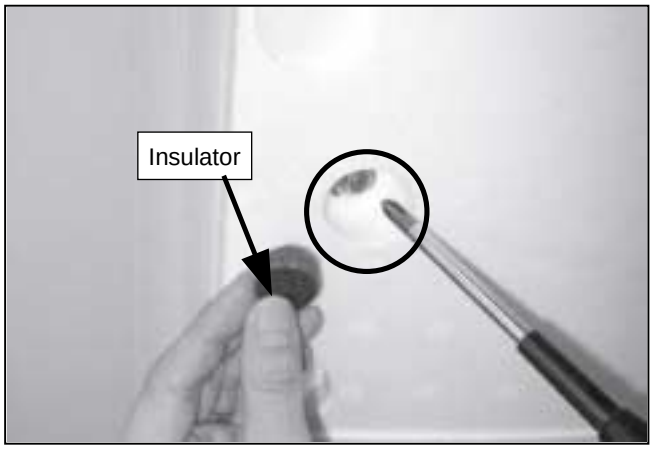
13. Loosen the screw of the Hose band. Remove the Drain hose.



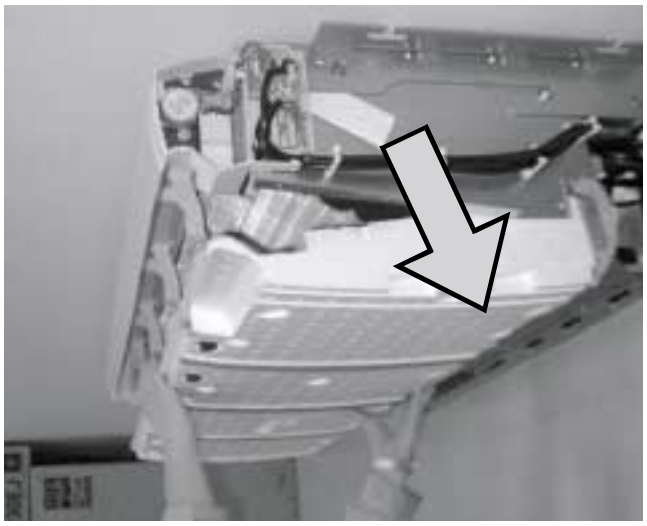
14. Remove 9 screws fixing the Drain pan ass'y.



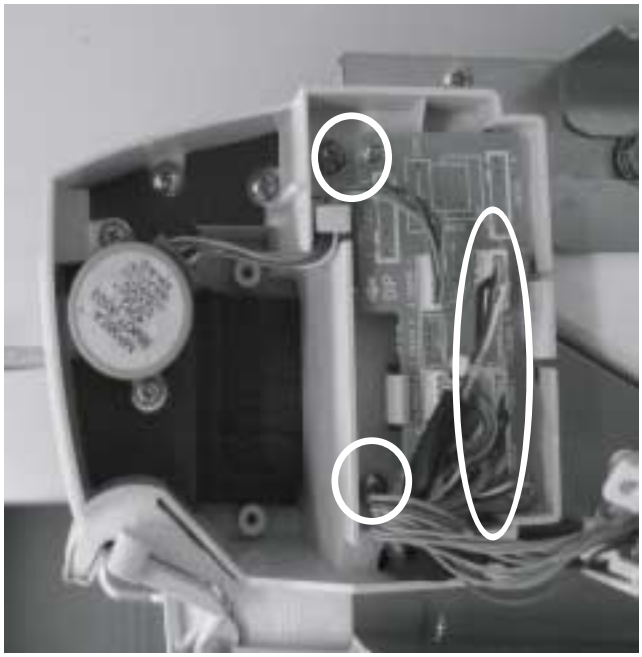
15. Remove 3 insulators and 3 screws fixing the Drain pan ass'y.



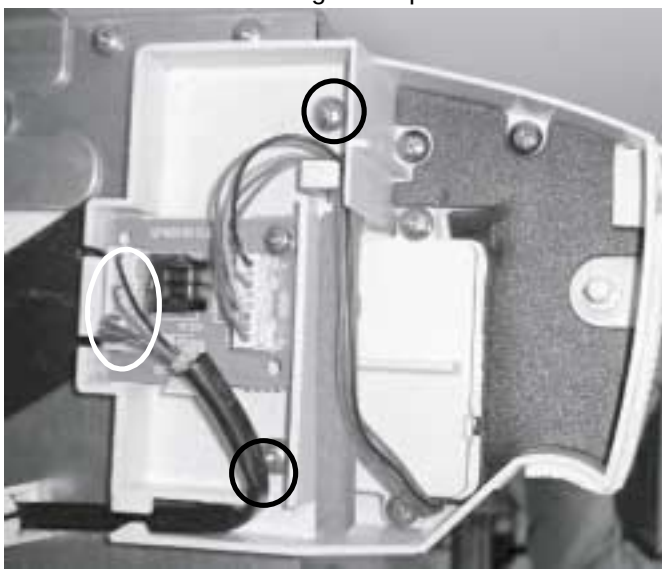
16. Tilt the Drain pan ass'y, slide the Drain pan ass'y to the direction of arrow.



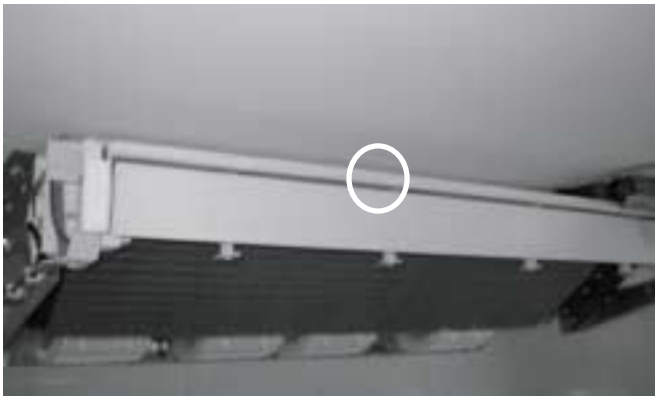
17. Disconnect 4 connectors (CN206, CN207, CN208 and CN210).
    Remove 2 screws fixing the Top duct cover R.



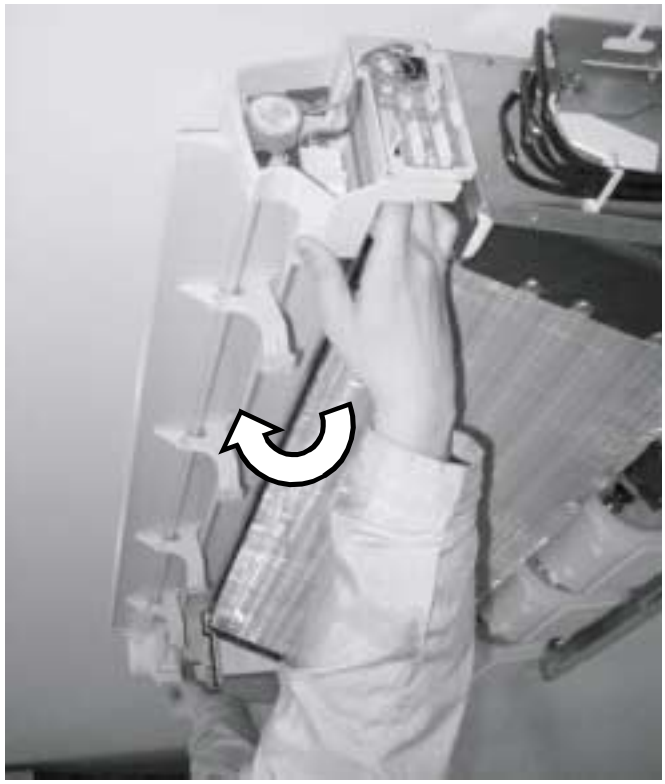
18. Disconnect the connector (CN302).
    Remove 2 screws fixing the Top duct cover L.

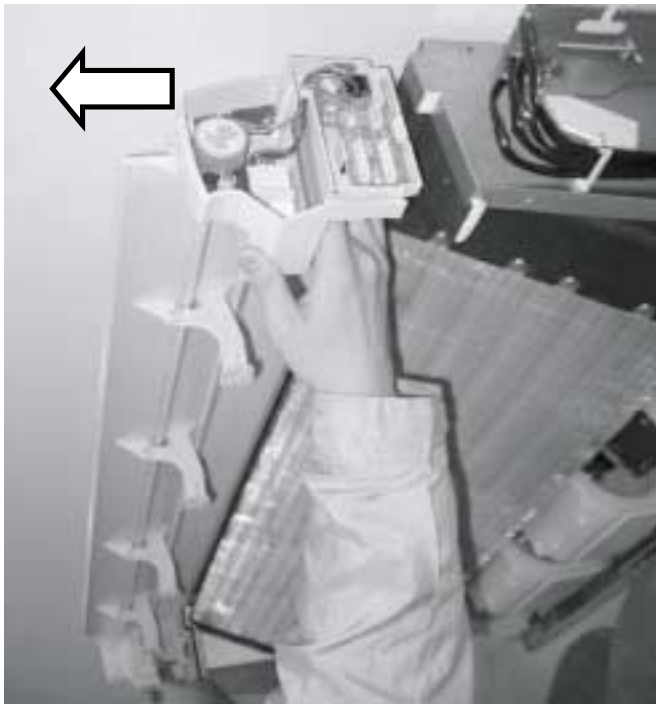


19. Remove the screw fixing the top duct.

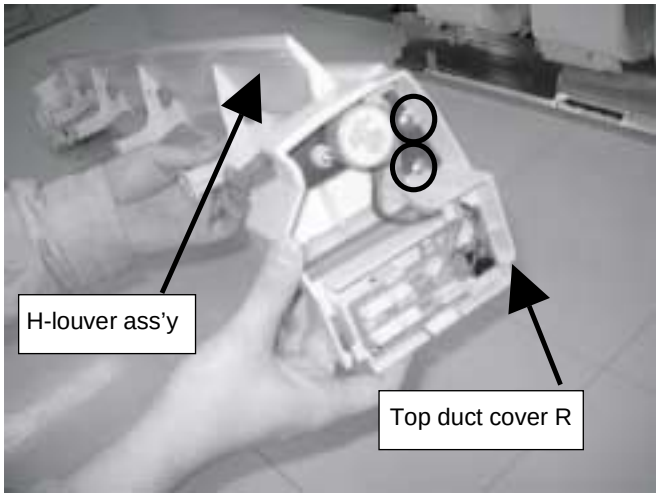


20. Tilt the Top duct for removing the rib of the Top duct , remove the unit to the direction of arrow.

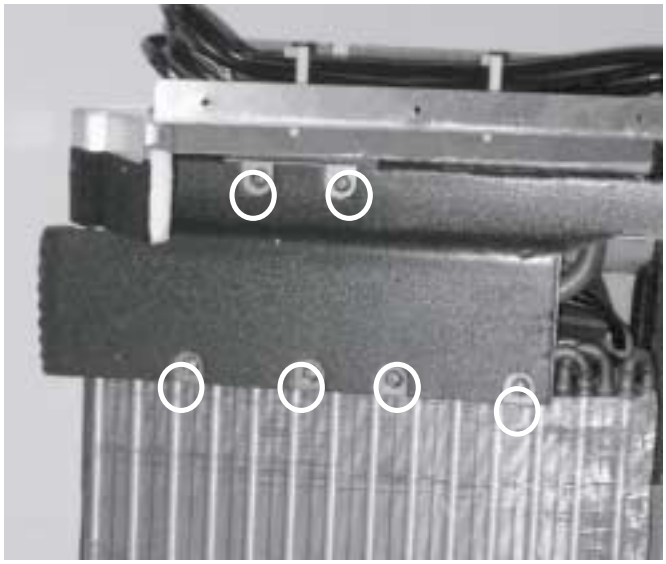




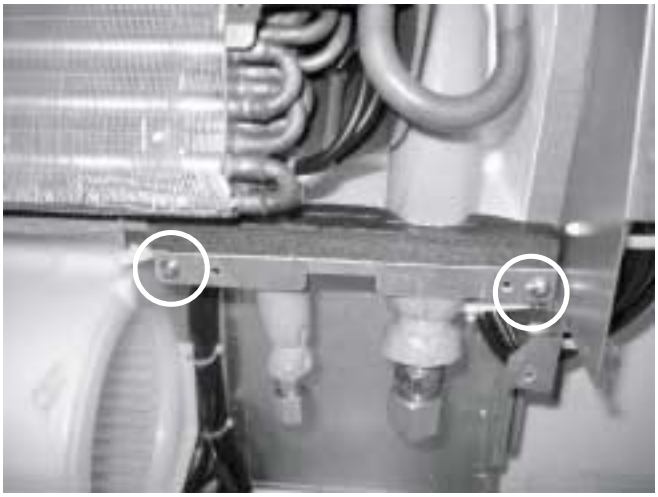
21. Remove 2 screws fixing the Top duct cover R.
Remove the Top duct cover R and H-louver ass'y.



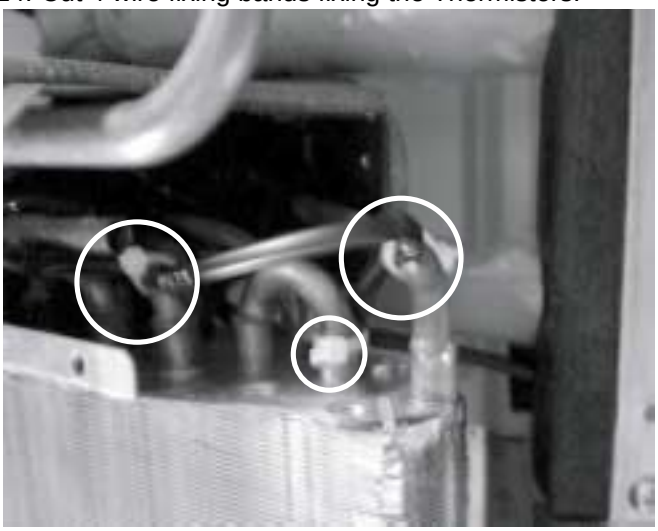
22. Remove 6 screws fixing the End plate sub.



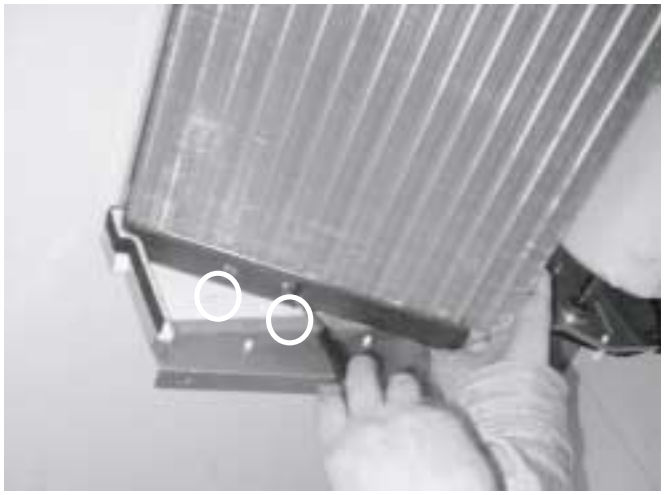
23. Remove 2 screws fixing the Tube holder.
Remove the Tube holder.



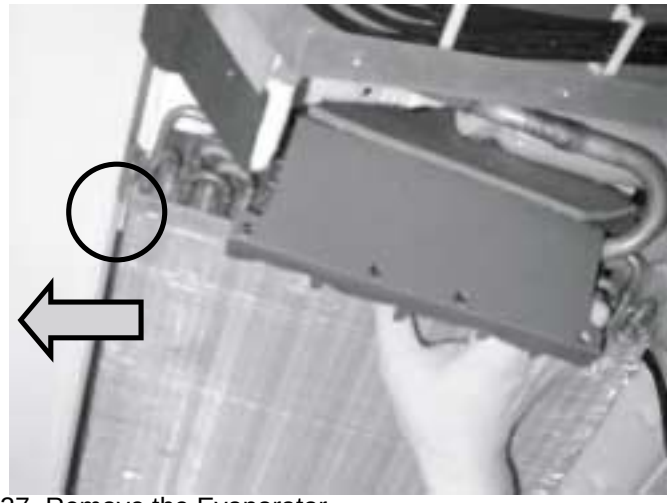
24. Cut 4 wire fixing bands fixing the Thermistors.



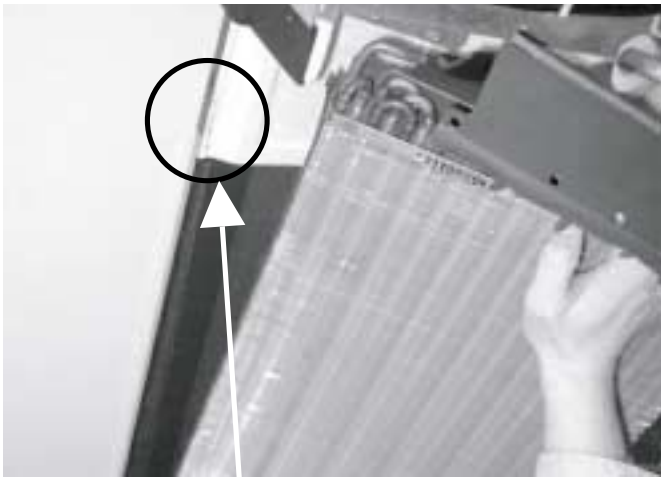
25. Remove 2 screws fixing the Evaporator.

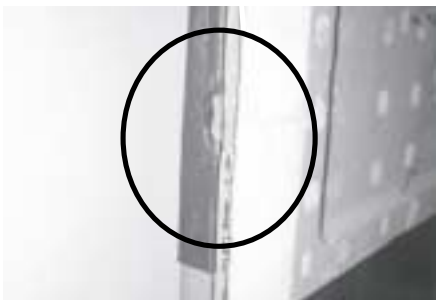


26. Remove hook of Evaporator hung on the Rear cabinet to the direction of arrow.



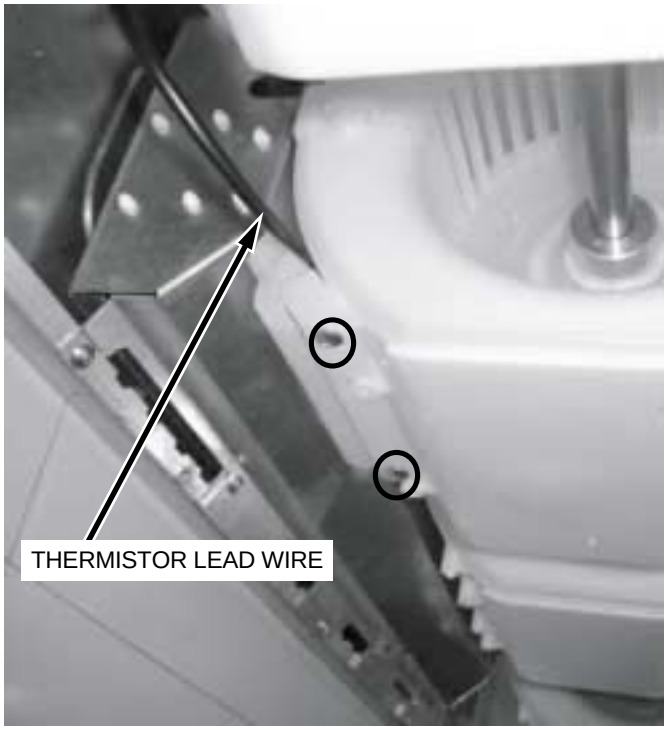
27. Remove the Evaporator.





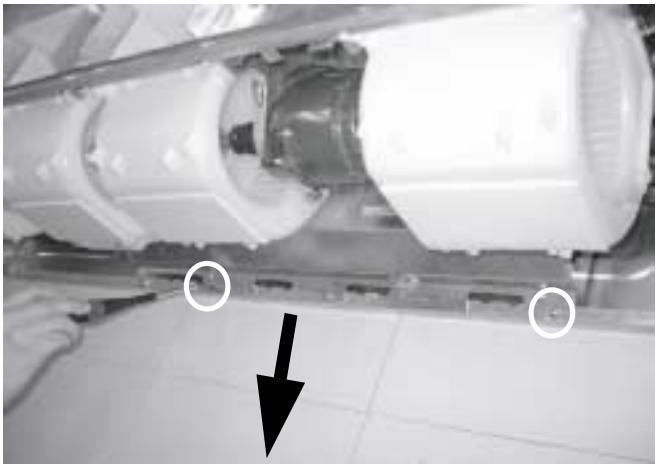
How to disassemble the Control box assembly.

1. Remove 2 screws fixing the Thermistor holder. Remove the Thermistor holder.

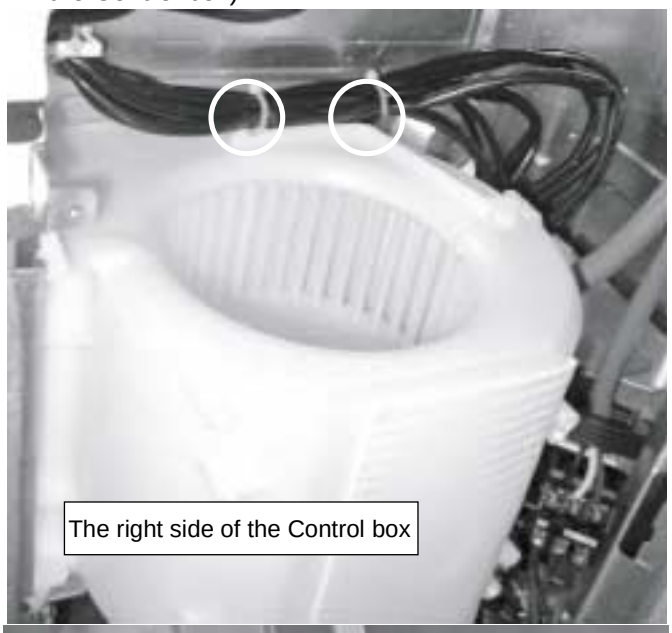


CAUTION: WHEN YOU ASSEMBLE THE THERMISTOR HOLDER TO FAN HOUSING, YOU LOCATE THE THERMISTOR LEAD WIRE IN BACK OF THERMISTOR HOLDER.

2. Remove 2 screws fixing the Control box cover. Slide the Control box cover to the direction of arrow.

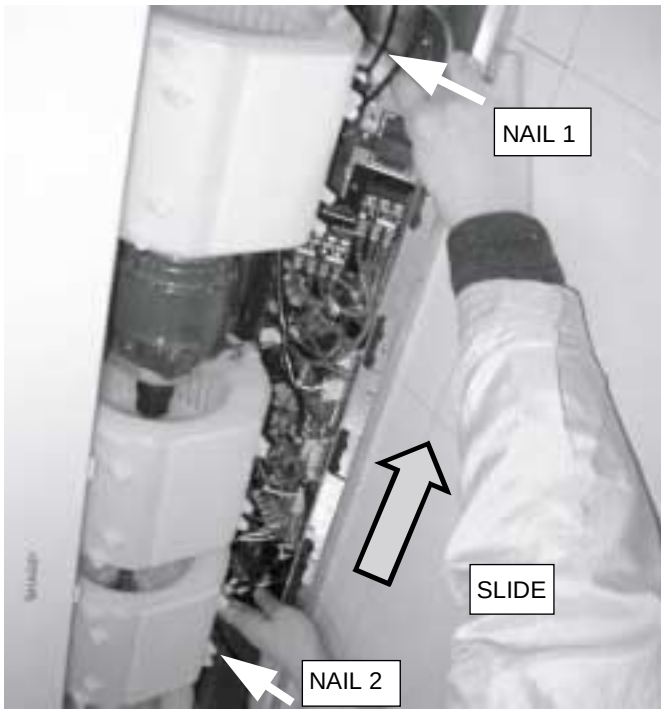


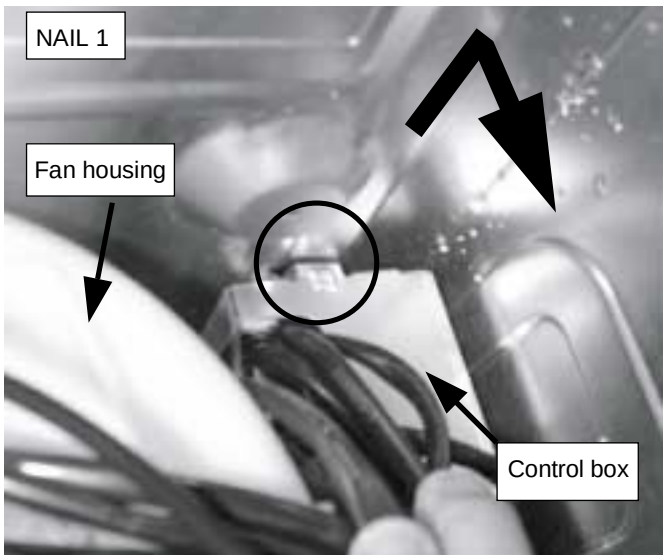
3. Cut 2 wire fixing bands. (Right side of the Control box) Remove Lead wires from Wire clamps. (Left side of the Control box)

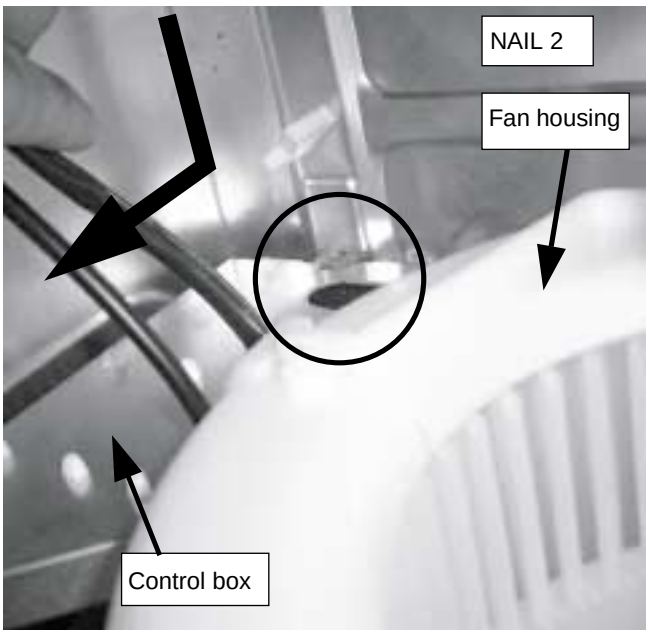


4. Remove 3 screws fixing the Control box.

5. Slide the Control box to the direction of arrow and remove 2 nails.

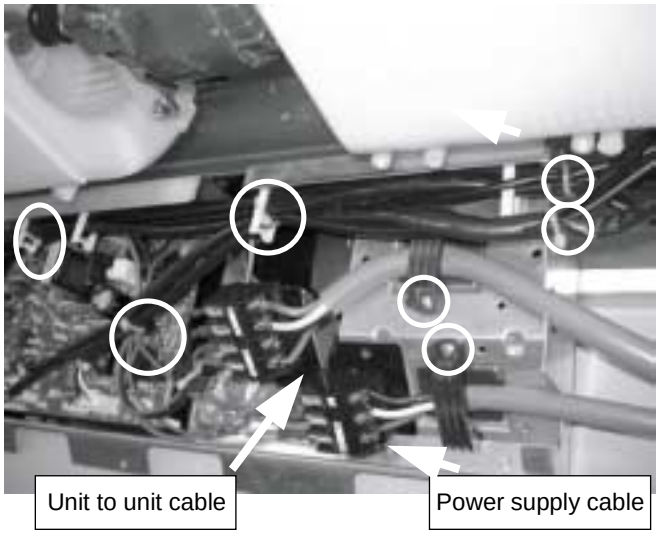




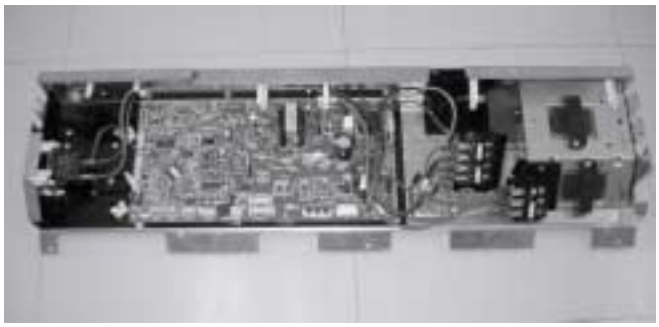


6. Take out the Control box from the Cabinet.

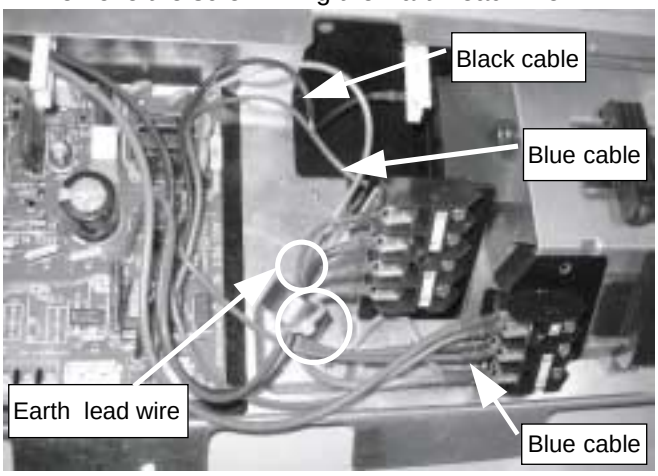
7. Cut 5 wire fixing bands.
   Remove 2 screws fixing 2 Cord clamps and remove them.
   Remove the Power supply cable and the Unit to unit cable.



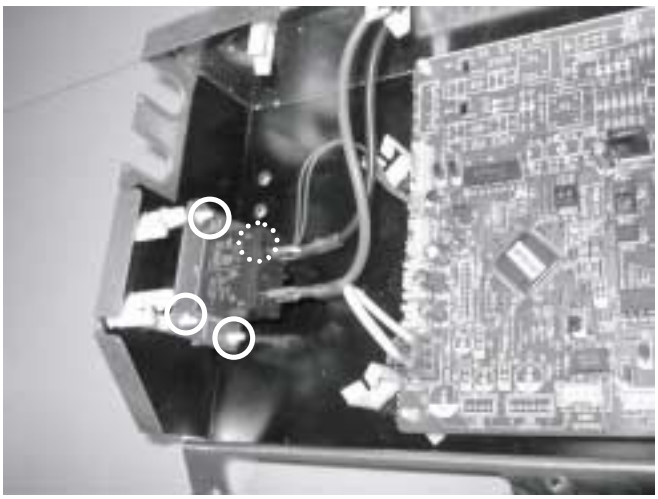
8. Disconnect 8 connectors (CN3, CN4, CN5, CN11, CN12, CN13, CN14, CN15).



9. Cut the wire fixing band.
   Disconnect 3 Lead wires.
   Remove the screw fixing the Earth lead wire.



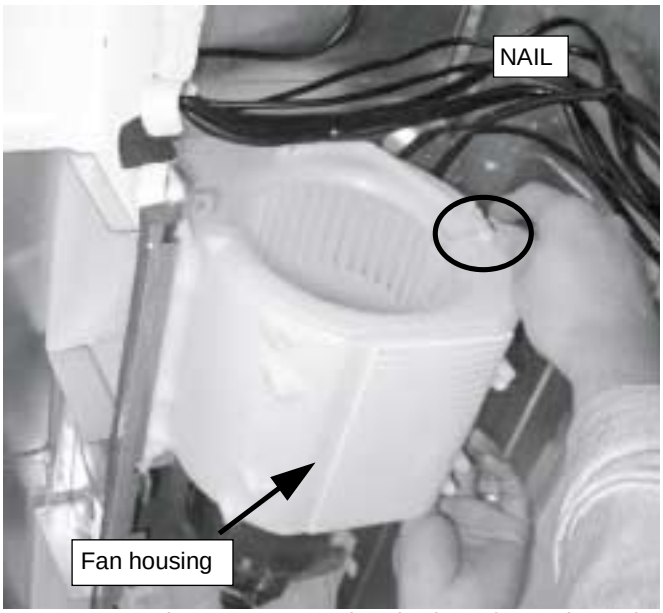
10. Unlock 4 Spacer's locks of sub PWB.



11. Unlock 5 Spacer's locks of PWB.

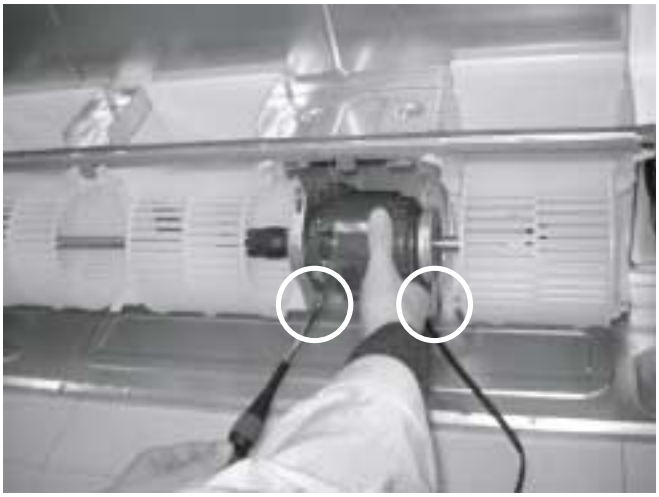
How to disassemble the Fan motor.

1. Remove 3 Fan housings (Remove the nails of both sides).



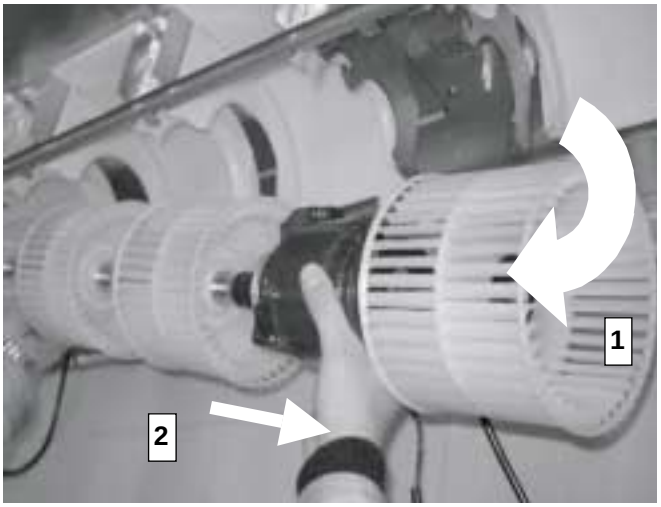
2. Remove the Fan motor lead wires from the Wire clamps.

3. Support the Fan motor with your hand, and remove 2 screws fixing Fan motor clamps.
   Remove 2 Fan motor clamps.



4. Tilt the Fan motor ass'y around the Bearing, remove it.

CAUTION: DO NOT HIT FANS AGAINST FAN HOUSING.

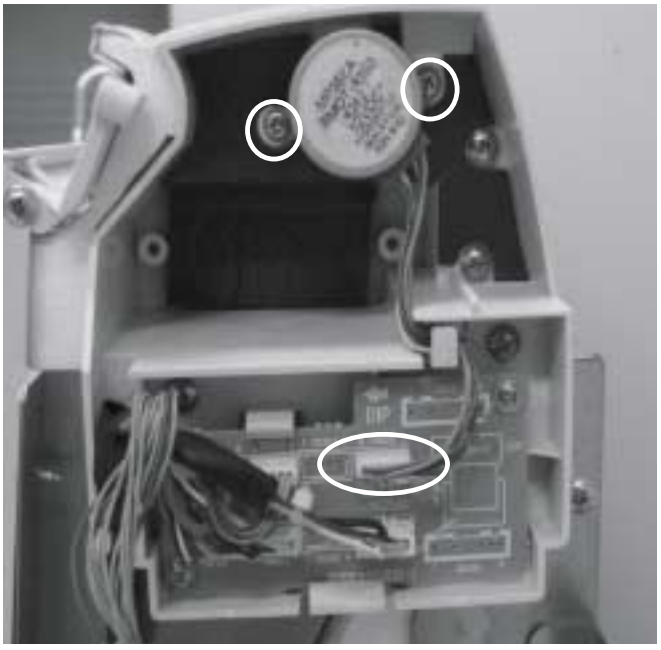


5. Remove 2 screws fixing the Fan and Joint with hexagon socket screw key (Diagonally 3mm).

CAUTION: WHEN YOU ASSEMBLE THE FAN MOTOR ASS'Y TO UNIT, YOU DO NOT MAKE THE FANS TOUCH THE FAN HOUSINGS.
AFTER ASSEMBLY OF THE FAN MOTOR ASS'Y MAKE SURE THAT THE FAN HAS NOT TOUCHED THE FAN HOUSING.

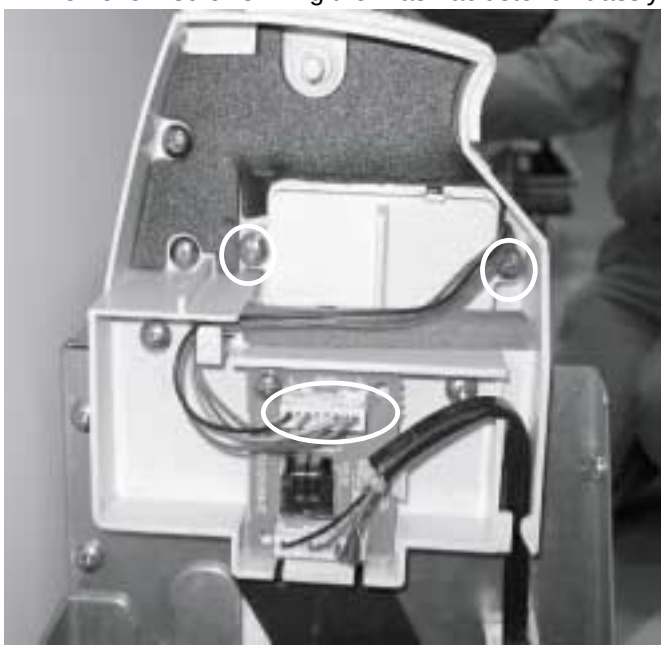
How to disassemble the Louver motor.

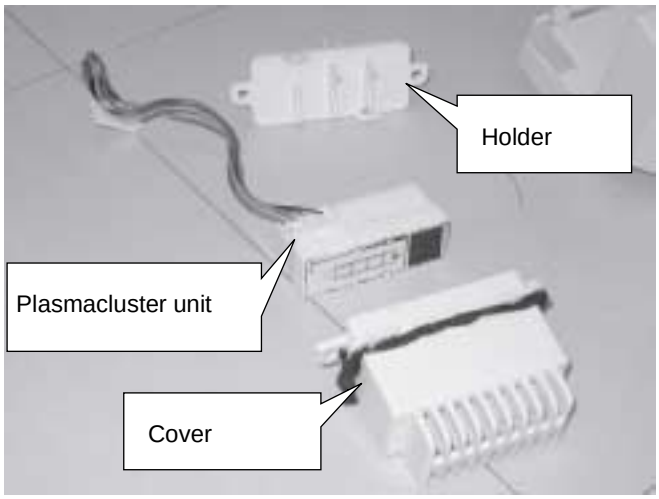
1. Disconnect the connector (CN205).
   Remove 2 screws fixing the Louver motor.



How to disassemble the Plasmacluster unit.

1. Disconnect the connector (Top duct cover L: CN301). Remove 2 screws fixing the Plasmacluster unit ass'y.

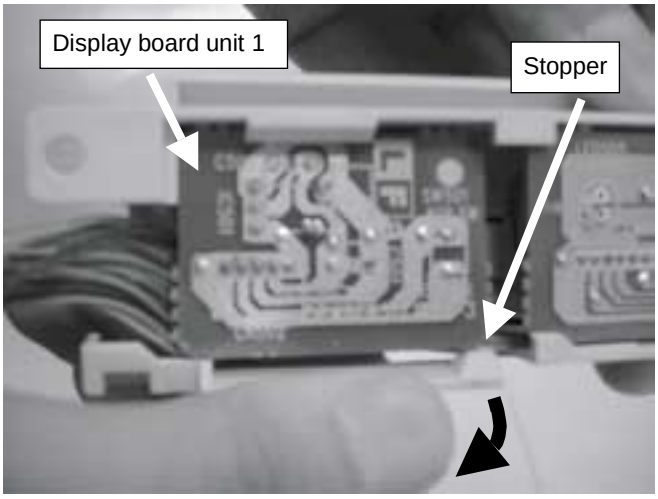




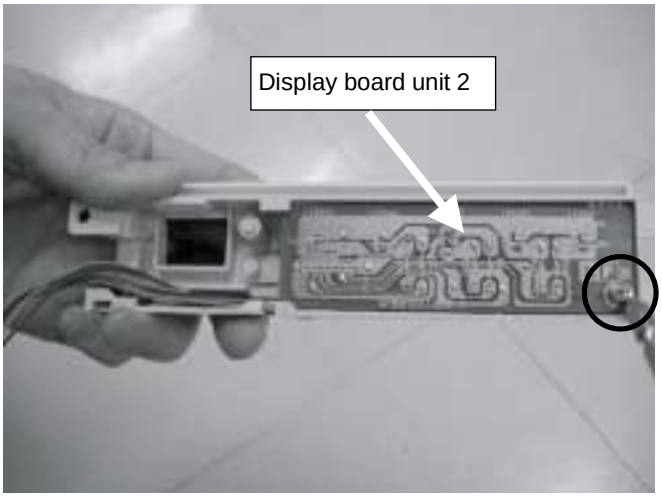
How to disassemble the Display unit.

1. Remove the Display cover.

2. Open the stopper and remove DISPLAY BOARD UNIT 1.



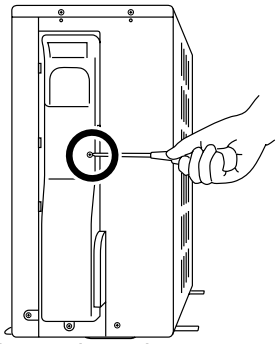
3. Remove the screw fixing DISPLAY BOARD UNIT 2 Remove DISPLAY BOARD UNIT 2.



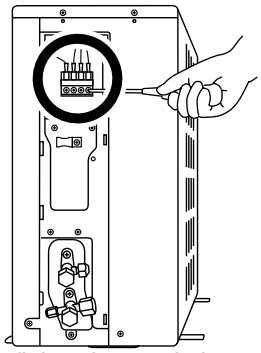
FOR OUTDOOR UNIT [GU-XR07ER / GU-XR09ER / GU-XR12ER]

CAUTION : DISCONNECT THE UNIT FROM THE POWER SUPPLY BEFORE ANY SERVICING

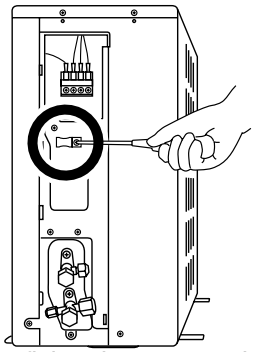
1. Loose a screw fixing the side cover.



2. Loose the unit to unit cord.

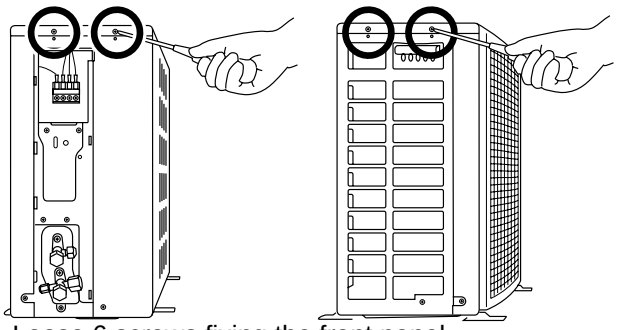


3. Loose a screw fixing the cord clamp.



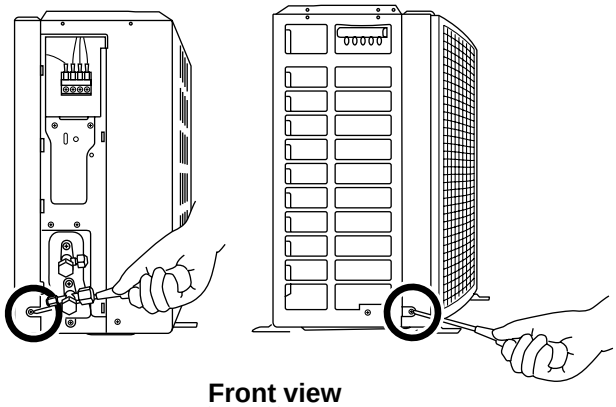
4. Loose 4 screws fixing the top panel.

Right side view **Left side view**

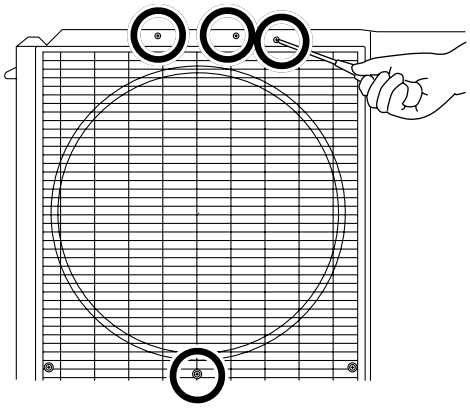


5. Loose 6 screws fixing the front panel.

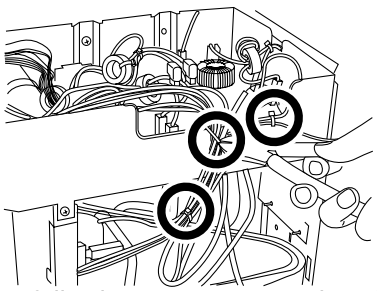
Right side view **Left side view**



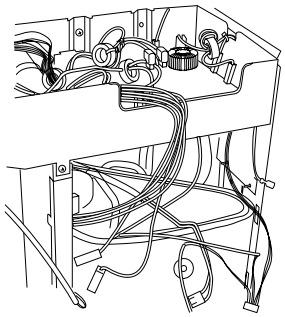
Front view



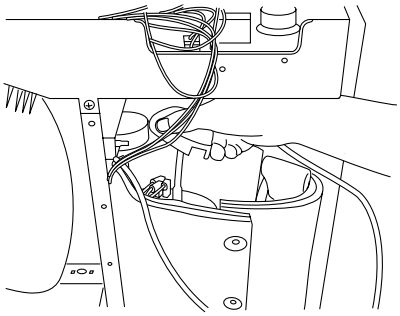
6. Cut 4 nylon bands.



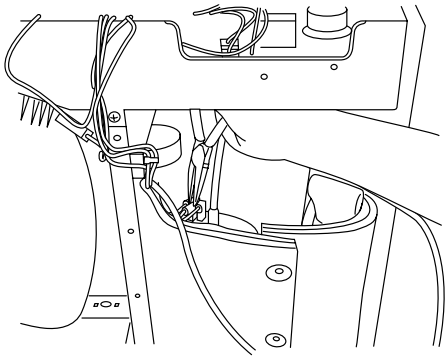
7. Disconnect following connectors and each wire.
   - Choke coil(two terminal)
   - Fan motor
   - Thermistor
   - Reverse valve



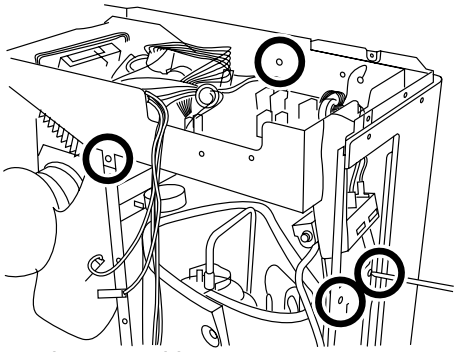
8. Remove the terminal cover of compressor.



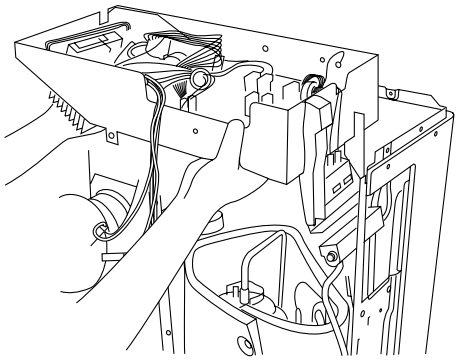
9. Remove 3 terminals of compressor..



10. Loose 4 screws fixing the control box.

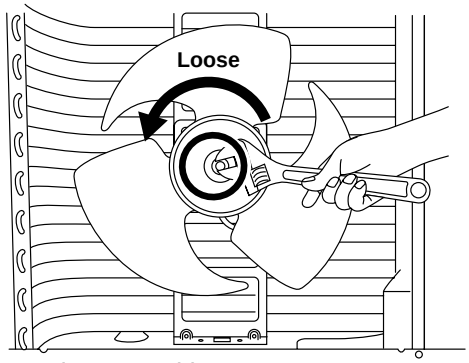


11. Take out the control box.

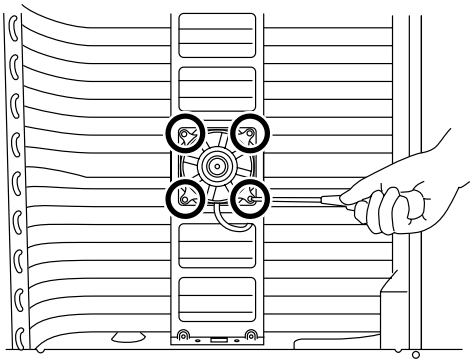


DISASSEMBLING PROCEDURE OF THE FAN

1. Loose the fan nut and fan can take out.



2. Fan motor is secured by 4 screws.



REPLACEMENT PARTS LIST [GS-XP07ER / GS-XP09ER / GS-XP12ER]

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
		CABINET AND UNIT PARTS		
1- 3	PCOV-B017JBFA	Top duct cover r	1	AU
1- 4	PFPFPC449JBEZ	Top duct cover ins.a	1	AF
1- 5	PFPFPC450JBEZ	Top duct cover ins.b	1	AE
1- 6	PFPFPC569JBEZ	Holder insulator	1	AE
1- 7	RMOT-A103JBZZ	Louver motor	1	AY
1- 8	LHLD-A686JBFA	Holder	1	AM
1- 9	NBRG-A026JBFA	Louver bushing	4	AB
1-10	PCOV-A933JBFA	Top duct cover l	1	AV
1-11	PCOV-B004JBFA	Cover	1	AU
1-12	PFPFPC451JBEZ	Top duct cover ins.a	1	AF
1-13	PFPFPC452JBEZ	Top duct cover ins.b	1	AE
1-14	PFPFPC486JBEZ	Tube insulator a	1	AH
1-15	PFPFPC487JBEZ	Tube insulator b	1	AE
1-16	PFPFPC447JBEZ	End plate ins. b	1	AF
1-17	PFPFPC610JBEZ	Evaporator seal	1	AC
1-18	CMOT-A427JBKZ	Fan motor sub ass’y	1	BU
1-19	MJNT-A007JBEZ	Joint	1	BA
1-20	NFANSA042JBFZ	Centrifugal fan	2	AX
1-21	NSFT-A038JBEZ	Motor shaft s	1	AE
1-22	NFANSA041JBFZ	Centrifugal fan	1	AZ
1-23	CFPFPA010JBKZ	Insulator ass’y	1	AP
1-24	CFPFPA011JBKZ	Insulator ass’y	1	AK
1-25	HGRL-A019JBFA	Grille	2	AU
1-26	LHLD-A655JBWZ	Hinge holder	4	AM
1-27	LSTP-A023JBFA	Grille hook	4	AM
1-28	MHNG-A034JBFA	Hinge	4	AM
1-29	PFILMA185JBEA	Air filter	2	AV
1-30	CHLD-A109JBKZ	Tube holder ass’y	1	AH
1-31	LDAI-A030JBWZ	Vertical louver base	1	AF
1-33	MJNTPA103JBFA	Louver link a	2	AE
1-34	MLOV-A360JBFA	Vertical louver	12	AE
1-36	PFPFPC464JBEZ	V louver ins.b	2	AG
1-37	CLOV-A053JBKZ	H-louver ass’y	1	AT
1-38	CHLD-A067JBK0	Bearing ass’y	1	AL
1-39	DPLT-A061JBYZ	Side cover l spot	1	AS
1-40	LANGKA168JBPZ	Bearing holder	1	AE
1-41	LBSHCA022JBF0	Bushing	1	AE
1-42	PFPFPC444JBEZ	Evaporator insulator	1	AE
1-43	DPLT-A062JBYZ	Side cover r spot	1	AS
1-44	PFPFPC444JBEZ	Evaporator insulator	1	AE
1-45	DBOX-A046JBKZ	Control box ass’y	1	
1-48	LHLD-A573JBFA	Cord clamp	2	AC
1-49	LHLDWA041JBEZ	Wire h0lder	11	AE
1-50	LHLDWA042JBEZ	Wire h0lder	13	AE
1-51	LPLTPA026JBFA	Cord clamp plate	2	AC
1-52	PSHE-A219JBEZ	Protect sheet	1	AP
1-53	PSHE-A220JBEZ	Protect sheet	1	AE
1-54	PSHE-A221JBEZ	Protect sheet	1	AP
1-55	CSRA-A573JBKZ	Drain pan ass’y	1	BK
1-56	PGUMMA301JBEZ	Drain plug	1	AH
1-57	CWAK-C396JBKZ	Top duct ass’y	1	AU
1-59	HBDG-A146JBEA	SHARP Badge	1	AQ
1-60	GCAB-A257JBTA	Front panel	1	BB
1-61	HBDG-A003FBEA	Cluster badge	1	AH
1-62	LHLD-A650JBFA	Led holder	1	AM
1-63	HDEC-B189JBEA	Display panel	1	AX
1-64	PCOV-A934JBFA	Led holder	1	AM
1-65	PCOV-A937JBRA	Display cover	1	AZ
1-66	DPLTMA023JBKZ	End plate sub ass’y	1	AS

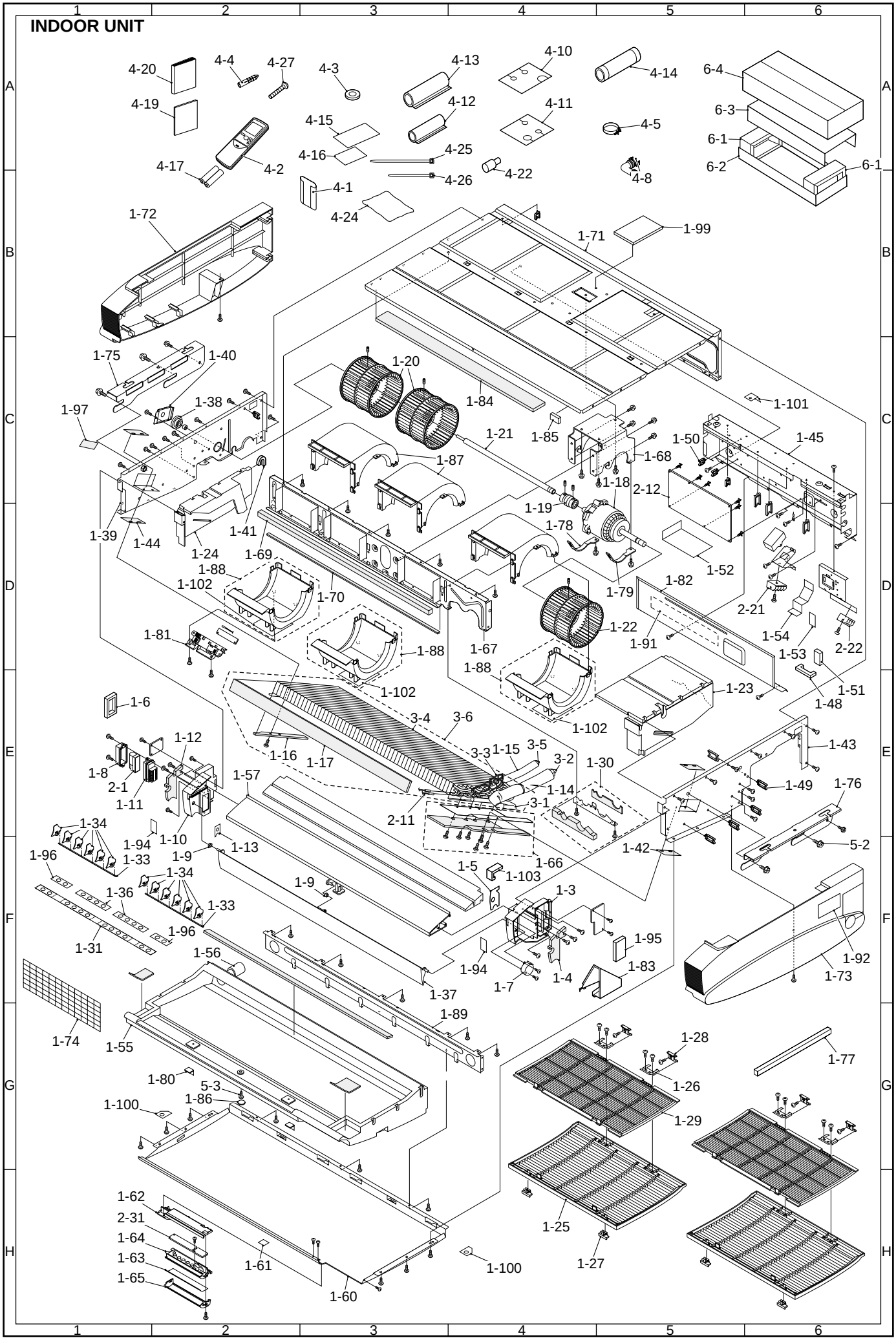
REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
1-67	DSKR-A141JBYZ	Bulkhead spot	1	AU
1-68	LANG-A543JBWZ	Fan motor angle	1	BA
1-69	PSEL-C660JBEZ	Seal b	1	AE
1-70	PSEL-C661JBEZ	Seal a	1	AE
1-71	GCAB-A258JBWZ	Rear cabinet	1	BB
1-72	GCOV-A138JBFA	Side cover l	1	BB
1-73	GCOV-A139JBFA	Side cover r	1	BB
1-74	GGAD-A060JBEZ	Wire guard s	1	AZ
1-75	LANG-A541JBWZ	Mounting angle l	1	AZ
1-76	LANG-A542JBWZ	Mounting angle r	1	AZ
1-77	LANG-A552JBEZ	Angle	1	AM
1-78	LANGKA167JBPZ	Fan motor clamp l	1	AE
1-79	LANGKA169JBPZ	Fan motor clamp r	1	AE
1-80	LANGKA175JBWZ	Angle	2	AE
1-81	LHLD-A659JBFZ	Thermistor holder	1	AM
1-82	PCOV-A936JBWZ	Control box cover	1	AR
1-83	DCOV-A230JBKZ	Drain cover ass'y	1	AT
1-84	PFPFPC503JBEZ	Rear cabinet ins.	1	AF
1-85	PFPFPC567JBEZ	End plate ins. c	1	AE
1-86	PFPFPC568JBEZ	Drain insulator	3	AE
1-87	PKESSA080JBFZ	Fan housing a	3	AQ
1-88	FKESSA003JBKZ	Fan housing ass'y	3	
1-91	TLABCB896JBRZ	Wiring diagram	1	AG
1-92	TSPC-E730JBRA	Name label [GSXP07ER]	1	AH
1-92	TSPC-E731JBRA	Name label [GSXP09ER]	1	AH
1-92	TSPC-E732JBRA	Name label [GSXP12ER]	1	AH
1-94	PFPFPC594JBEZ	Top duct cover ins. C	2	AC
1-95	PFPFPC596JBEZ	Top duct cover ins. D	1	AC
1-96	PFPFPC607JBEZ	V louver ins. C	2	AC
1-97	PFPFPC593JBEZ	Plate insurator L	1	AC
1-99	PPLT-A379JBWZ	Rear plate	1	AZ
1-100	LANGKA178JBWZ	Guard angle A	2	AX
1-101	LANGKA179JBWZ	Guard angle B	1	AX
1-102	PFPFPC625JBEZ	Cushion sheet	3	AE
1-103	PFPFPC618JBEZ	Cushion sheet	1	

CONTROL BOX PARTS

2- 1	CKITTA013JBKZ	Plasmacluster unit	1	AZ
2- 2	QW-VZE609JBZZ	Lead wire	1	AP
2- 4	QW-VZE613JBZZ	Lead wire	1	AP
2- 5	QW-VZE614JBZZ	Lead wire	1	AP
2- 6	QW-VZE615JBZZ	Lead wire	1	AP
2- 7	QW-VZE616JBZZ	Lead wire	1	AP
2- 8	QW-VZE618JBZZ	Lead wire	1	AP
2-10	QW-VZE608JBZZ	Lead wire	1	AP
2-11	RH-HXA040JBZZ	Thermistor	1	AZ
2-12	DPWBFA342JBKZ	Control board unit [GSXP07ER]	1	BQ
2-12	DPWBFA344JBKZ	Control board unit [GSXP09ER]	1	BQ
2-12	DPWBFA345JBKZ	Control board unit [GSXP12ER]	1	BQ
2-13	QFS-GA054JBZZ	Fuse 3.15a250v	1	AE
2-14	QFS-GA064JBZZ	Fuse 1a 250v	1	AF
2-15	QSPGCA002JBZZ	Surge absorb	1	AF
2-16	QSW-SA038JBZZ	Slide switch	1	AK
2-17	RH-IXA783JBZZ	Integrated circuit	1	AU
2-18	RH-VXA002JBZZ	Varistor	2	AF
2-19	RRLYDA008JBZZ	Relay	1	AH
2-20	RRLYJA078JBE0	Relay	1	AP
2-21	QTANZA001JBZZ	Terminal board	1	AQ
2-22	QTANZA006JBZZ	Terminal board	1	AN
2-23	QW-VZE828JBZZ	Lead wire	1	AC
2-24	QW-VZE721JBZZ	Lead wire	1	AP

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
2-25	QW-VZE739JBZZ	Lead wire	1	AP
2-26	QW-VZE740JBZZ	Lead wire	1	AP
2-27	QW-VZE741JBZZ	Lead wire	1	AP
2-28	QW-VZE742JBZZ	Lead wire	1	AP
2-29	RC-HZA404JBZZ	Fan motor capacitor	1	AU
2-30	RH-HXA033JBZZ	Thermistor	1	AX
2-31	DPWBFA360JBKZ	Display board unit	1	BE
2-33	RRMCUA002JBZZ	Photo detector unit	1	AK
2-34	VHPGL5BG502-1	Led	1	AR
2-35	VHPGL6ZR27+-6	Light emmiting diode	2	AF
2-36	VHPGL6ZS27+-6	Light emmiting diode	1	AF
2-37	QW-VZE646JBZZ	Lead wire	1	AP
2-38	QW-VZE647JBZZ	Lead wire	1	AP
		CYCLE PARTS		
3- 1	CPIPCA891JBKZ	Lead tube ass'y [GSXP07ER] [GSXP09ER]	1	AQ
3- 1	CPIPCA896JBKZ	Lead tube ass'y [GSXP12ER]	1	
3- 2	PSEN-A053JBKZ	Flare nut ass'y [GSXP12ER]	1	AN
3- 2	PSEN-A045JBKZ	Flare nut ass'y [GSXP07ER] [GSXP09ER]	1	AK
3- 3	CVLV-A726JBKZ	Joint tube ass'y	1	AZ
3- 4	PEVA-A519JBEZ	Evaporator	1	BV
3- 5	PSEN-A044JBKZ	Flare nut ass'y	1	AG
3- 6	DEVA-A234JBKZ	Evaporator ass'y [GSXP07ER] [GSXP09ER]	1	BZ
3- 6	DEVA-A237JBKZ	Evaporator ass'y [GSXP12ER]	1	
		ACCESSORY PARTS		
4- 1	CHLD-A095JBKZ	Cord holder ass'y	1	AC
4- 2	CRMC-A636JBEZ	Remote control	1	BN
4- 3	DX-WZA001JBKZ	Washer kit	1	AT
4- 4	LX-NZA207JBEZ	Special nut	2	AE
4- 5	LBND-A095JBEZ	Hose band	1	AH
4- 8	LPFT-A029JBF0	Drain joint	1	AD
4-10	PFPFPC504JBEZ	Insulator	1	AE
4-11	PFPFPC505JBEZ	Insulator	1	AE
4-12	PFPFPC507JBEZ	Insulator	1	AG
4-13	PFPFPC508JBEZ	Insulator	1	AH
4-14	PHOS-A038JBEZ	Drain hose	1	AU
4-15	PSEL-C613JBEZ	Insulator	1	AK
4-16	PSEL-C614JBEZ	Insulator	1	AH
4-17	UBATUA027JBE0	Battery pack	1	AE
4-19-1	TINS-A823JBRZ	Installation manual	1	AH
4-19-2	TINS-A827JBRZ	Installation manual	1	
4-20	TINSEA374JBRZ	Operation manual	1	AT
4-22	LPFTNA001JBFA	Joint tube	1	AZ
4-23	GLEGGA008JBE0	Compressor cushion	4	AE
4-24	PTUB-A218JBEZ	Tube insulator	1	AB
4-25	LBND-A098JBEZ	Wire fixing band	2	
4-26	LBND-A100JBEZ	Wire fixing band	6	
4-27	XTTSF40P20000	Tapping screw	2	AB
		SCREW		
5- 1	LX-BZA327JBEZ	Special screw	13	AC
5- 2	LX-BZA328JBEZ	Bolt	4	AE
5- 3	LX-BZA335JBEZ	Special screw	3	AE
5- 4	LX-BZA140JBE0	Special screw	8	AB
5- 5	LX-BZA075JBE0	Special screw	2	AA
		PACKING PARTS		
6- 1	CPADBA074JBKZ	Packing pad ass'y	2	AW
6- 2	CPADBA077JBKZ	Bottom packing ass'y	1	AU
6- 3	SPADBA267JBEZ	Packing pad	1	AK
6- 4	SPAKCB597JBEZ	Packing case [GSXP07ER]	1	AZ
6- 4	SPAKCB598JBEZ	Packing case [GSXP09ER]	1	AZ
6- 4	SPAKCB610JBEZ	Packing case [GSXP12ER]	1	

INDOOR UNIT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REPLACEMENT PARTS LIST [GU-XR07ER / GU-XR09ER / GU-XR12ER]

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
		CONTROL BOX PARTS		
1- 1	CMOTLA902JBEZ	Fan motor [GUXR07ER] [GUXR09ER]	1	BK
1- 1	CMOTLA903JBEZ	Fan motor [GUXR12ER]	1	BL
1- 2	RTRN-A256JBE0	Current transformer CT1	1	AG
1- 3	DPWBFA339JBKZ	Electric control board [GUXR07ER]	1	BQ
1- 3	DPWBFA353JBKZ	Electric control board [GUXR09ER]	1	BU
1- 3	DPWBFA340JBKZ	Electric control board [GUXR12ER]	1	BQ
1- 4	QTANZA001JBZZ	Terminal board (4P)	1	AQ
1- 5	RIC--A022BDE0	Integrated circuit IC7	1	AE
1- 6	VSKRC245M//-3	Transistor Q1	1	AC
1- 7	VHRPC853H//-6	Photo coupler PC2	1	AG
1- 8	RC-EZA250JBZZ	Capacitor [GUXR07ER] [GUXR09ER]	1	BG
1- 8	RC-EZA266JBZZ	Capacitor [GUXR12ER]	1	BH
1- 9	VHDD25VB60+-1	Diode bridge	1	AN
1-10	DPWBFA352JBKZ	IPM board unit	1	BR
1-11	PDAI-A126JBWZ	Terminal plate	1	AE
1-12	RH-TXA003JBZZ	Active filter	1	BS
1-13	RTHM-A022JBE0	Compressor thermistor	1	AN
1-14	RH-HXA019JBZZ	Thermistor	1	AV
1-15	RTRN-A286JBEZ	Coil [GUXR07ER] [GUXR09ER]	1	BF
1-15	RTRN-A294JBZZ	Coil [GUXR12ER]	1	BG
1-16	DBOX-A035JBYZ	Control box	1	AG
1-17	LBND-A042JBE0	Wire fixing band	7	AC
1-18	PSPA-A151JBZZ	Spacer	4	AE
1-19	LHLD-A554JBFZ	Heat sink holder	1	AE
1-20	PRDAFA157JBEZ	Heat sink for powertransistor module	1	AX
1-21	PSHE-A197JBEZ	Protect sheet	1	AH
1-22	PSEL-C061JBEZ	Insulator	1	AE
1-23	PSPA-A144JBE0	Spacer	1	AC
1-24	RFIL-A064JBE0	Ferrite core	2	AF
1-25	QW-VZD871JBZZ	Lead wire (L1+, L1-)	2	AG
1-26	QW-VZD857JBZZ	Lead wire (Earth)	1	AC
1-27	QW-VZD958JBZZ	Lead wire (DB1+-AFIN+)	1	AK
1-28	QW-VZD866JBZZ	Lead wire (T3 - TB2)	1	AF
1-29	QW-VZD864JBZZ	Lead wire (T2 - TBN)	1	AF
1-30	QW-VZD865JBZZ	Lead wire (T1 - TB1)	1	AF
1-31	QW-VZD863JBZZ	Lead wire (TBE - BHE)	1	AF
1-32	QW-VZE193JBZZ	Lead wire (9P LEAD)	1	AK
1-33	QW-VZE198JBZZ	Lead wire (2P LEAD)	1	AE
1-34	QW-VZD959JBZZ	Lead wire (DB1—-AFIN-)	1	AG
1-35	QW-VZE194JBZZ	Lead wire (AFOUT—C8-)	1	AG
1-36	QW-VZE195JBZZ	Lead wire (AFOUT+-C8+)	1	AG
1-37	QW-VZE196JBZZ	Lead wire (C8-IPM/PWB)	1	AL
1-38	QW-VZE190JBZZ	Lead wire (MRY1-T6)	1	AE
1-39	QW-VZE191JBZZ	Lead wire (T5-DB1 AC2)	1	AF
1-40	QW-VZE192JBZZ	Lead wire (MRY1-DB1AC1)	1	AF
1-41	QW-VZE199JBZZ	Lead wire (ACT-CN13)	1	AF
1-42	QW-IZA035JBZZ	Lead wire (Compressor wire)	1	AR
1-43	RH-IXA781JBZZ	Microcomputer IC1	1	BK
1-44	RH-IZA140JBE0	Integrated circuit IC3	1	AE
1-45	RH-TZA098JBE0	Transistor Q2, Q3, Q4	3	AB
1-46	RH-VZA020JBE0	Varistor CNR1, CNR2	2	AE
1-47	RH-VXA002JBZZ	Varistor NR1, NR2	2	AF
1-48	QSPGCA003JBZZ	Surge absorber SA1	1	AH
1-49	LBNDKA106JBWZ	Capacitor clamp	1	AP
1-50	PSEL-C122JBEZ	Insulator	1	AC
1-51	PSEL-C123JBEZ	Insulator	1	AC
1-52	VHGPC817X3+1BS	Photo coupler (PC1,PC3-PC7,PC12)	7	AD
1-53	RHOG-A169JBE0	Thermistor (for Heatsink)	1	AK

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
		CABINET AND UNIT PARTS		
2- 1	LANGKA124JBPZ	Fan motor angle	1	AR
2- 2	LANGKA146JBPZ	Fan motor angle sub [GUXR07ER] [GUXR09ER]	1	AG
2- 2	LANGKA123JBPZ	Fan motor angle sub [GUXR12ER]	1	AE
2- 3	GCAB-A196JBTA	Rear cabinet	1	BD
2- 4	LHLD-A573JBFA	Cord clamp	1	AC
2- 5	PFPFPB911JBEZ	Motor angle cushion	1	AC
2- 6	GCAB-A195JBTA	Front panel	1	BC
2- 7	GGADFA037JBFA	Fan guard	1	AT
2- 8	PSEL-C045JBEZ	Motor angle cushion	1	AB
2- 9	PSEL-C048JBEZ	F panel insulator	1	AC
2-10	PSEL-C049JBEZ	F panel insulator	1	AC
2-11	PSEL-C050JBEZ	Bulkhead insulator	1	AG
2-12	TLABBA148JBRA	SHARP badge	1	AH
2-13	CCHS-A770JBTA	Base pan assembly	1	BC
2-14	PFTA-A092JBFA	Side cover	1	AQ
2-15	PCOV-A616JBPZ	Protect cover	1	AE
2-16	MSPR-A026JBE0	Thermistor spring	1	AB
2-17	MSPR-A046JBE0	Protector spring	1	AC
2-18	NFANPA094JBEZ	Propeller fan	1	AX
2-19	PSKR-A211JBWZ	Bulkhead	1	AQ
2-21	TSPC-E736JBRZ	Name badge [GUXR07ER]	1	AH
2-21	TSPC-E737JBRZ	Name badge [GUXR09ER]	1	AH
2-21	TSPC-E738JBRZ	Name badge [GUXR12ER]	1	AH
2-22	PSEL-C051JBEZ	Side cover seal	1	AE
2-23	FFTA-A014JBKZ	Side cover assembly	1	AT
2-24	TLABCB913JBRZ	Wiring diagram [GUXR07ER] [GUXR09ER]	1	AH
2-24	TLABCB914JBRZ	Wiring diagram [GUXR12ER]	1	AH
2-25	DCAB-A151JBKZ	Top cover assembly [GUXR07ER] [GUXR09ER]	1	AZ
2-25	DCAB-A152JBKZ	Top cover assembly [GUXR12ER]	1	AZ
2-26	PSEL-C060JBEZ	Insulator for rear cabinet	1	AB
2-27	GCAB-A197JBTA	Top cover	1	AX
2-28	JHNDPA011JBFA	Holder	1	AS
2-29	PSEL-C046JBEZ	Bulkhead insulator	1	AC
2-30	PSEL-C119JBEZ	Box insulator	1	AE
2-31	PSEL-C047JBEZ	Box insulator	1	AF
2-32	PSEL-C062JBEZ	Box insulator	1	AG
2-33	CHLD-A093JBK0	Holder assembly	1	AL
2-34	PSEL-C121JBEZ	Side cover seal	1	AC
2-35	PSEL-C120JBEZ	Side cover seal	1	AC
2-36	LPLTPA026JBFA	Cord clamp plate	1	AC
		CYCLE PARTS		
3- 1	CVLV-A676JBKZ	Reverse valve assembly [GUXR07ER] [GUXR09ER]	1	BQ
3- 1	CVLV-A683JBKZ	Reverse valve assembly [GUXR12ER]	1	BQ
3- 2	DCPY-A321JBKZ	Capillary tube assembly [GUXR07ER] [GUXR09ER]	1	BF
3- 2	DCPY-A322JBKZ	Capillary tube assembly [GUXR12ER]	1	BF
3- 3	PCON-A481JBPZ	Condensor [GUXR07ER] [GUXR09ER]	1	BQ
3- 3	PCON-A484JBPZ	Condensor [GUXR12ER]	1	BT
3- 4	DVLV-A529JBKZ	3 way valve unit [GUXR07ER] [GUXR09ER]	1	AW
3- 4	DVLV-A660JBKZ	3 way valve unit [GUXR12ER]	1	BH
3- 5	LX-NZA228JBEZ	Service nut	1	AD
3- 6	LX-NZA227JBEZ	Bonnet	2	AF
3- 7	DVLV-A530JBKZ	2 way valve unit	1	AT
3- 8	PCMPRA328JBEZ	Compressor	1	CD
3- 9	LBSHCA005JBE0	Terminal bushing	1	AA
3-10	PCOV-0562JBE0	Terminal cover	1	AD
3-11	GLEG-A029JBE0	Compressor cushion	3	AE
3-12	PSPF-A840JBEZ	Compressor cover	1	AQ
3-13	PSPF-A841JBEZ	Compressor cover	1	AF
3-14	PSPF-A850JBEZ	Compressor cover	1	AG

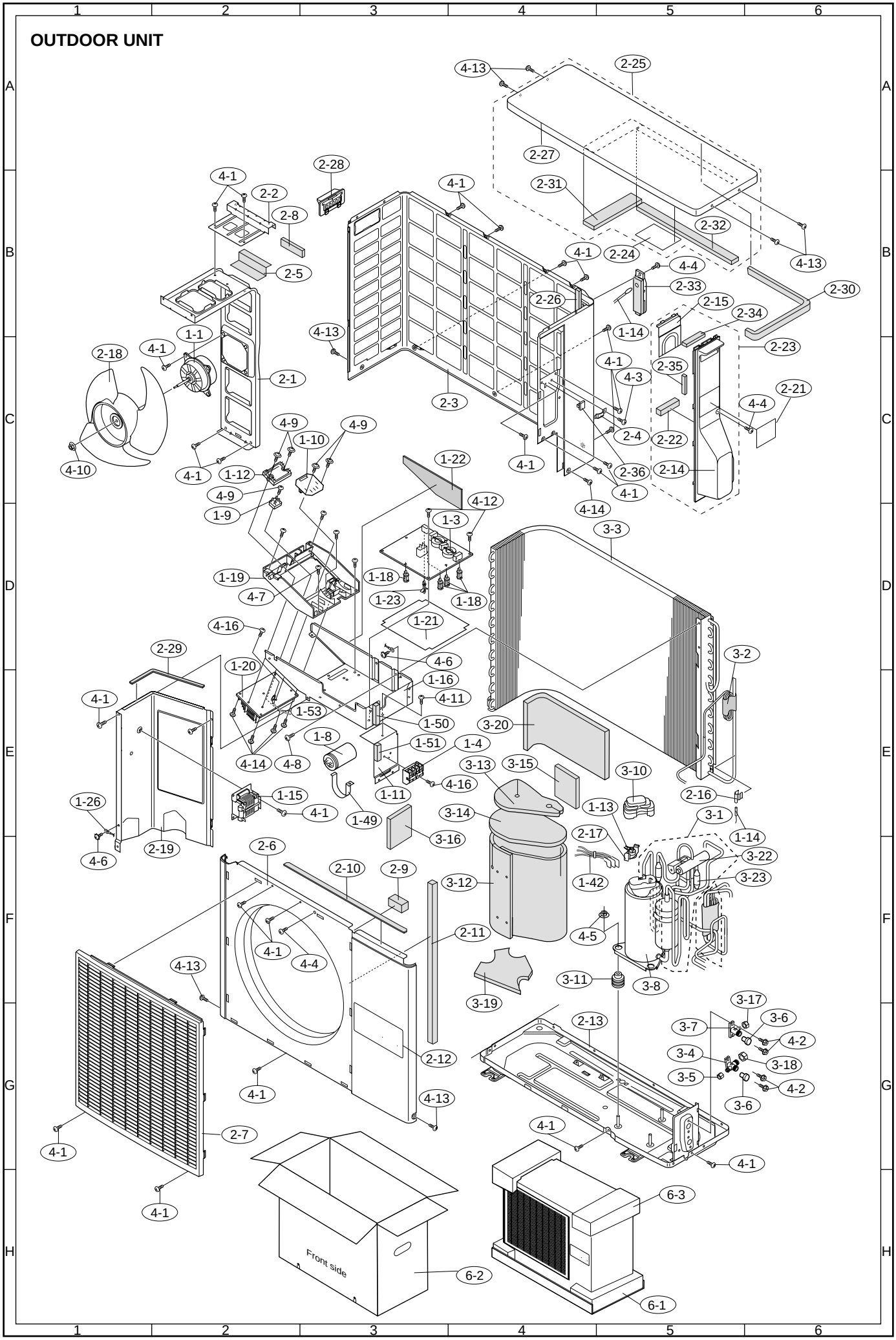
REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
3-15	PSPF-A851JBEZ	Compressor cover	1	AK
3-16	PSPF-A852JBEZ	Bulkhead cover	1	AG
3-17	PSEN-A044JBKZ	Flare nut ass'y	1	AG
3-18	PSEN-A045JBKZ	Flare nut ass'y [GUXR07ER] [GUXR09ER]	1	AK
3-18	PSEN-A053JBKZ	Flare nut ass'y [GUXR12ER]	1	AN
3-19	PGUM-A135JBEZ	Compressor sheet	1	AG
3-20	PSPF-A839JBEZ	Compressor cover	1	AG
3-22	PVLVXA052JBEZ	Reverse valve [GUXR07ER] [GUXR09ER]	1	BB
3-22	PVLVXA061JBEZ	Reverse valve [GUXR12ER]	1	BD
3-23	PMUF-A061JBEZ	Muffler	1	AQ
		SCREWS AND NUT		
4- 1	LX-BZA140JBE0	Special screw	20	AB
4- 2	LX-BZA072JBE0	Special screw (for 2/3 way valve unit)	4	AB
4- 3	XTTSD40P14000	Tapping screw	1	AA
4- 4	LX-BZA166JBE0	Special screw	3	AB
4- 5	LX-NZA026JBE0	Special nut (for compressor)	3	AC
4- 6	LX-BZA075JBE0	Special screw (for Earth)	1	AA
4- 7	LX-BZA140JBE0	Special screw	5	AB
4- 8	LX-BZA075JBE0	Special screw (for Earth)	1	AA
4- 9	XBPSD40P20J00	Machine screw (for IPM, for AF, for DB1)	5	AA
4-10	LX-NZA135JBE0	Special nut (for propeller fan)	1	AC
4-11	XCTSD40P12000	Tapping screw(for Terminal board ass'y angle,for capacitor clamp)	2	AA
4-12	XTPSD30P12XS0	Tapping screw 3mm x 16mm (for PWB assembly)	2	AA
4-13	LX-BZA292JBEZ	Special screw 4mm x 16mm (for Top cover)	8	AC
4-14	XTTSD40P16000	Tapping screw (for Heatsink)	4	AA
4-15	XBPSD30P10000	Machine screw	1	AA
4-16	XCPSD40P16000	Tapping screw	1	AA
		PACKING PARTS		
6- 1	CPADBA031JBKZ	Bottom pad assembly	1	AS
6- 2	SPAKCB601JBEZ	Packing case [GUXR07ER]	1	AZ
6- 2	SPAKCB602JBEZ	Packing case [GUXR09ER]	1	AZ
6- 2	SPAKCB603JBEZ	Packing case [GUXR12ER]	1	AZ
6- 3	CPADBA032JBKZ	Packing pad assembly	1	AL

HOW TO ORDER REPLACEMENT PARTS

To have your order filled prompty and correctly, please furnish the following information.

1. MODEL NUMBER
2. REF. NO.
3. PART NO.
4. DESCRIPTION

OUTDOOR UNIT



MEMO

SHARP